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at the 40th National Safety Congress

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New Approaches . . .

If safety is to keep pace with today's rapidly advancing technology, we must continually have "new approaches."

Each year, at the National Safety Congress, the ideas and experiences of many of the nation's top safety men are presented in the various sessions. Many of these ideas, devices and methods, first presented at a Congress session, later become generally accepted within their fields.

In order to present this information conveniently and at small cost, the Congress Transactions are published in volumes, one for each Section or Division, along with a General Sessions and Detailed Index to all volumes. The 34 volumes of the 1952 Congress Transactions are listed on the last page of this volume.

Safety directors everywhere have found the Congress Transactions a useful aid in their accident prevention programs. In industry, for example, their judicious distribution to key personnel in management and supervision has proved to be of invaluable service.

In preparing these Transactions, the proceedings of the Congress have been condensed and edited for reference purposes. Complete original manuscripts, with any charts or illustrations which were used, are available in National Safety Council files. Views expressed at the Congress or in this record are those of the Congress participants and are not necessarily those of the National Safety Council.

THE HOME SAFETY CONFERENCE

This volume is a record of the sessions held at the 1952 National Safety Congress by the Home Safety Conference. The conduct of these Congress sessions each year is only one of the many cooperative activities which the Conference carries on for the benefit of accident prevention work in the home. The activities of the Conference are under the direction of the officers of the Conference listed at the close of this volume.

Pilot Study of Childhood Accidents: Preliminary Report

By WILLIAM S. LANGFORD, M.D., VIRGINIA N. WILKING, M.D.,
RODMAN GILDER, JR., M.D., MINNIE MARDER GENN, Ed.M. and
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Acknowledgment

1. This investigation was carried out with the assistance of a grant from the Metropolitan Life Insurance Company.

2. Appreciation is expressed for the assistance in accumulating the data given by Christian Herrmann, M.D., Paul F. A. Hoefer, M.D., Maynard C. Wheeler, M.D., George Genn, Ph.D., Mrs. Kathleen Devine, and Mrs. Hilda W. Yoder.

3. We are grateful for valuable counsel from the Advisory Committee, Rustin McIntosh, M.D., Chairman; Donald B. Armstrong, M.D., Earl C. Bonnett, M.D., Mr. W. Graham Cole, John M. Cotton, M.D., Miss Marjorie L. Craig, Paul Lemkau, M.D., Harry M. Weaver, M.D., George M. Wheatley, M.D., and Miss Pauline B. Williamson.

A major problem of child health today is the prevention of childhood accidents. Part of the answer to this problem lies in the answer to the question of why some children have more than their share of accidents. Although there is an extensive literature on the accident susceptible or accident prone adult, there has been but little written on this aspect of childhood accidents.

Much remains to be done in order to identify the respects in which children who have repeated accidents differ from their fellows.

In spite of the lack of reported studies of children there has been a tendency to talk about the accident prone child and to attribute to him the personality characteristics and motivations seen in the adult accident repeater.

It was with a desire to do something about it, and not merely to talk about it, that the study, of which this paper is a preliminary report, was begun at the Babies Hospital of the Columbia-Presbyterian Medical Center, New York, in the fall of 1951.

The purpose of this investigation was to explore methods for identifying and deter-

mining the significance, in relation to the incidence of accidents in children, of parental attitudes, parent-child relationships, environmental accident hazards, personality characteristics and functioning of the child, physical coordination and physical disabilities as these are reflected in the experience of the accident repeater.

It was planned to do this through the study of a relatively small number of children of school age and their environment, both personal and physical, comparing a group who have had repeated accidents with a group who have no accident history.

In other words, the plan was to study the individual and the total setting in which the accidents occurred and to see if there were any significant differences between the two groups. Even though the number of children studied would be small some questions might be answered.

In addition, leads for further investigations with a larger number of children might emerge. In any event, it would be discovered whether the proposed approach in the study would bring out meaningful information.

It was felt that this kind of study on a broad base could best be done in a large medical center where special procedures and examinations would be readily available. The plan was to select for investigation ten or twelve children of average intelligence who had been brought to the emergency clinic of the Columbia-Presbyterian Medical Center for treatment of accidental injuries at least three times during the eighteen-month period prior to the outset of the study.

Children whose only accidents had been traffic or who had had severe or repeated head injuries were not to be included.

The children to be studied would be from the hospital neighborhood since there is no ambulance service.

They were to be between six and eleven years, taking care to eliminate older children

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who might have started their physiological adolescent changes.

These were to be compared with an equal number of children of similar age and sex who had been followed earlier in the Well Baby Clinic of the pediatric service, who had no accident history and whose health history had been good.

The suggested ratio was nine boys to three girls since this corresponded roughly with the child accident fatality figures.

Each child was to be given a careful medical history and physical examination. Neurological examinations would be done by a member of the neurological service especially assigned for this purpose. Similarly, ophthalmological studies were to be carried out in the eye clinic by a member of the department especially delegated. Electroencephalograms would be done on all children.

We planned to evaluate the general motor condition of the children in the physical and neurological examinations and in addition, attempted to devise some crude measures of coordination in which differences in motor skills might be observed. No well standardized tests of coordination seemed to be available. Three situations were planned: 1, several trials at hammering a nail of specified size into a piece of soft pine; 2, sawing through a piece of soft pine of uniform size; and 3, piling toy building blocks on end. In all of these some rough quantitative comparisons could be made between children.

Psychological studies of the child included the Stanford-Binet and Wechsler Intelligence Scale for Children, Bender Gestalt, Projective Drawings, Rorschach, a specially devised sentence completion test containing items of accident import, and the Thematic Apperception Test. Four extra pictures bringing in accident situations were added to the Thematic Apperception Test plates. (These were prepared by Mr. W. Graham Cole of the Metropolitan Life Insurance Company.) In this battery of clinical psychological tests are included both those of mental measurement, personality diagnosis and evaluation.

Anamnestic data about the child were to include a general and personality developmental history, behavioral adjustments, relationships with people, child and adult, in and outside the family circle, school progress and adjustment, play and recreational in-

terests and activities. This is such material as would be included in the background story in a clinical psychiatric appraisal of a child. In addition attention would be paid to the nature and attendant circumstances of any accident.

Several clinical psychiatric interviews were planned with each child employing a combination of verbal, play, drawing, etc., activities as modes of communication. The usual things looked for in psychiatric interviews with children would be covered including his general adjustment techniques, his ways of meeting with new and difficult situations, his relationships with significant persons, his interests, his hopes, his fears and ambitions.

It was planned to pay particular attention to the child's exposure and reactions to known factors increasing accident hazard and to explore diligently his emotional reactions before, during and after his accidents.

Study of the family setting would consist of a psychiatric social investigation by an experienced psychiatric social worker. This would include personality data concerning the parents, the patient, other children and other people in the home. The interrelationships among the members of the family, their attitudes and feelings toward each other, their patterns of adjustment, as well as all material and observations usually included in the background history of a child under psychiatric study, would be surveyed.

Special attention was to be paid to the accidental injury patterns of all members of the home and to the type of supervision the child received in his play activities. An accident hazard appraisal of the home was planned. If possible some appraisal was to be made of the neighborhood play facilities.

Contacts with the schools were planned as a part of the general appraisal of the child.

The plan for action outlined above can be recognized as including the usual kind of study given a child who is brought to a psychiatric clinic for children, a study which utilizes the services of the child psychiatrist, the clinical psychologist and the psychiatric social worker. In addition, investigations by the pediatrician and other medical specialists are included in the survey of these accident repeater and accident free children.

The investigation was conducted by the staff of the Pediatric Psychiatric Clinic of the Babies Hospital with the addition of an experienced psychiatric social worker especially employed for this project. The psychiatric interviews with the children and general physical examinations were carried out by two child psychiatrists, both of whom have had extensive pediatric backgrounds; one of them has had well-rounded psycho-analytical training.

The selection of cases posed more problems than we had anticipated. The emergency clinic nurses were well aware of the "What, you here again" child but no routine record of accident patients was kept.

The hospital record room filed the cases under anatomical diagnoses.

Spotting the accident repeater children was finally accomplished through four means; 1, the charge nurse of the emergency clinic keeping a list of child patients of appropriate age; 2, a similar list kept by the clinic aide in the minor surgical clinic; 3, a watch on admissions to the children's surgical ward; 4, reference to the record of accident cases in patients accompanied to the hospital by a police officer. These last were accidents which had occurred on the streets, in the parks or playgrounds or at school where some city liability might be involved.

After this search twenty cases were located in children between 6 and 11 years of age having three or more accidents following January 1, 1950 (we finally extended the period to cover twenty-one months before October 1, 1951). Of these 18 were boys and two girls.

Several of these children had a long string of visits back to the pre-school years but were continuing to have accidents.

We noted a number of children who had had several accidents prior to January 1950 but only one or two since.

It has been noted that accidents do tend to drop off in frequency after the five to six year period but we were frankly surprised to find so few children meeting our criteria.

Data on the frequency of non-fatal accidents in children are rather scarce. However, in the 1951 *Accident Facts* a table "Student Accidents by Type and Grade" gives some information which seems pertinent. This table covers over 27,000 reported accidents requiring a doctor's attention or

causing absence from school for a half day or more.

The over-all frequency for school and non-school accidents was 15.3 per hundred thousand student days in the kindergarten through twelfth grade range. This survey covered a nine-month school year.

Computation would give one accident per 32 children or, if it is assumed that the accident rate is three times greater in boys, one accident per 16 boys and one per 48 girls.

The criterion for an accidental injury as requiring a doctor's attention would be similar to our definition.

Birnback in a study of accident repeaters and accident free children in a junior high school population of 600 boys found 55 children meeting his criteria for 5 major accidents; his definition was an injury causing one or more days' absence from school. These 55 children had a total of 364 accidents during their school careers. This would be an average of 6.6 per child, or about one per year.

He could find only 48 who were completely accident free. There would seem little doubt as to the fact that we are dealing with a real group of accident repeaters in our study, representing one extreme of the scale.

Of our group of twenty children nine were finally included in the study, eight boys and one girl; the girl was the younger sister of one of the boys.

We were unable to get in touch with four cases. Four mothers were working and unable to bring the children in, one of these was also of the impression that her child was not having many accidents. One mother was not interested in participating as her eleven-year-old boy was not having as many accidents as in his earlier years. The other mother was so tied down by her responsibility to her large brood of children that she could not give us the necessary time. One child was excluded after study was well under way because his intellectual level was below the average range.

The nine children studied ranged in age from 6 years, 2 months to 11 years, 6 months when first seen; the youngest child was the girl. A total of 47 accidental injuries had been treated in the emergency clinic. Nineteen of these had occurred in the home; in only one child had all the acci-

dents occurred at home. Twenty-eight had occurred outside the home. Every child had had at least one in the home.

Many of the accidents which appeared in the hospital records antedated the time selected for determining the suitability for this study.

Most of the children had had numerous lesser injuries for which they had not been brought to the hospital. The list of injuries included seven fractures, one suspected but not proven fracture of the nasal bones, four dislocations and seventeen lacerations requiring suturing.

The selection of the non-accident group of children was difficult. It was finally decided to select the children from the camp lists of the Babies Hospital medical social service department. These families had had contacts with the hospital and there was held out the possibility of another camp experience. Since we wanted essentially healthy children there was little we could offer the parents for their participation in the study aside from our gratitude and a thorough examination of their children.

The final selection included a younger brother of one of the accident repeater boys. The ages of the 9 non-accident children ranged from 7 to 11 years, with the youngest being a girl. Two brothers of decidedly different temperaments from the same family were also included in the non-accident group. The children with no history of accidents would seem to be a group from the opposite extreme of the accident scale.

Both groups came from the same neighborhood. The accident group included 7 Roman Catholic, 1 Protestant and 1 Hebrew child. The non-accident group, 7 Roman Catholic and 2 Protestant. (Those accident cases not studied included 9 Roman Catholic, 1 Protestant, 1 Hebrew.) The income level of the two groups was similar, ranging from \$32.00 to \$60.00 a week, with one family in which both parents worked, achieving \$85.00 a week.

The average number of visits required to complete our studies was 12 with a maximum of 15 and a minimum of 9. The non-accident cases on the whole took fewer visits. By and large the schools were cooperative in releasing the children for the visits. Only one school objected to lost time.

The parents of the children were most cooperative in keeping appointments. It is

felt that the relationship established with the psychiatric social worker was important in maintaining the good will and participation of the families.

Before discussing even in a very preliminary way the findings of this investigation it would seem well to examine briefly what others have thought of the problem of accident proneness, particularly in childhood. In 1932 Melanie Klein stated that her analytic work with children had convinced her that recurrent accidents represented attempts at suicide with as yet insufficient means.

Ackerman and Chidester in 1936 noted a certain reckless abandon in play. They believed that accident prone children have more fear and more unexpressed hatred and guilt feelings than the average child. They attribute to "accidental" self injuries the basic motive of hurting the self out of guilt or symbolically hurting others out of revenge or a combination of both. They describe in some detail a child who was a patient at the Southard School; the self injuries in this child represented an expression of anger at the mother, and self-punishment for sexual phantasies about which she was guilty; there was considerable secondary gain from the injuries themselves.

Fabian and Bender in 1947 discussed the predisposing factors in 65 children with histories of head injuries admitted to the children's psychiatric service at Bellevue Hospital. None of this group had epilepsy, psychosis, or central nervous system disease; 33 had a history of two or more major accidents. The highest number of accidents was in the 5 to 6 year period. Marked psychopathology was noted in the parents; alcoholism in the family was a factor in 27 of the 65 cases. They believed that the combination of a sadistic father and passive masochistic mother was important and that in young children the accidents represented inverted aggressive gestures directed at the frustrating adults.

The most characteristic profile of the children was of sado-masochistic behavior patterns. Identification with the sadistic father or with the aggressor were other features and at times depressive states leading to self inflicted injuries.

Siblings of the patients observed reacted to the severe family psychopathology either with the accident habit or with behavior disorders.

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Follow up studies revealed that many of the children carried their accident proneness over into adult life.

Fabian and Bender realized that their conclusions might have limited significance since all of the children had been referred because of behavior disorders, and they appreciated also that post-traumatic sequelae in the head-injured child might influence the psychological factors elicited; they hoped to stimulate general hospitals to elucidate the problem of predisposition to accidents with social and psychological investigations.

Bakwin and Bakwin in 1948 in a short paper review the scant literature on children. Following Dunbar's ideas about adult accident repeaters they stress the role of over-authority in the home and the resulting pent-up aggression and resentment in the child. The Bakwins include no cases of their own in the paper.

In 1948 two studies of accident repeaters in circumscribed groups of children were published. Birnbach compared the performance of 55 accident repeaters and 48 accident free boys in a junior high school population of 600 on a pencil and paper personality inventory scale, the National Safety Education Tests, the New York State Physical Fitness Standards for Boys and the Rogers Strength and Physical Capacity Tests.

The accident free group showed a superior knowledge of safety, better home and emotional adjustment, and were more dependable, industrious and cooperative.

The accident repeater group showed superior gymnastic skill, greater crude strength and indications of home, health and emotional maladjustment.

Certain additional observations were made of the children in the school situation and through interviews.

One fifth of the accident repeaters came from broken homes and 18 per cent reported at least one strict parent.

The accident repeaters tended to be aggressive and to dominate social relationships by physical means; they were poor losers and on the whole were grandstanders in sports. These children tended to react to the stress of adjustment demands with impulsive behavior. Rebelliousness tended to emerge when frustrated or under emotional strain. They were interested in sports and activities which required a large degree of

muscular effort. Difficulties in concentrating were common.

Fuller reported a most interesting study of the accidents in a carefully circumscribed nursery school group. She noted that, while the injury rate in two year olds is about equal in the two sexes, as the children grew older boys got hurt more often than girls although the injury rate for the whole group declined. Young children do seem to learn to keep out of trouble!

The children with highest injury scores all seemed to have difficulties in harmonious group living although they showed few behavior characteristics in common. A suggestive correlation was found between frequency of injury and a variety of attributes: exceptional physical strength, a daredevil attitude, emotional reactions easily aroused, impulsive or unreflective behavior, a rude or insulting attitude to others, especially adults, and in girls, tomboyishness.

Fuller's conclusions were most tentative and the need for further studies was stressed.

In 1951 Fuller and Baume published a sociometric study of a second grade class in which the injury rate was five times as great as in any other class in the same school. In general the less popular children received more injuries than did the socially accepted group; a few children ran counter to the general trend. This study provides suggestions for further investigations of injury proneness as a group as well as an individual problem.

Dunbar's studies of accident proneness in 1,600 fracture patients have received considerable attention and many of her conclusions have been applied to children. The age range of her cases was from 12 years on up.

She noted a tendency to impulsive behavior under stress particularly in relation to authority.

The accident prone patients were characterized by a jerky, restless tension, a good fellow role in social relationships, a tendency to make up their minds definitely and quickly and to focus on immediate rather than long range goals.

They tended to have accidents when strong aggressive hostility was aroused or pressure from authority became too great.

Aggressiveness then breaks out in an impulse to punish himself and those responsi-

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ble for his frustration. She noted that at least one parent had been reported as "strict" in the vast majority of the accident repeaters. Strictness, a difficult term to define, was regarded as actions or attitudes in the parent which would produce "a feeling of severe insecurity, (being involved) because parents are cruel or unapproachable."

She adds that an ill parent might produce such a feeling in his offspring.

The relationship with a strict parent is regarded as the source of the authority-hostility conflict.

Dunbar also noted a history of accidents in the families of 40 per cent of her cases, and that 90 per cent had had a strict religious upbringing.

She found that in 80 to 90 per cent there was some specific worry in the life situation preceding the accident.

The initial reaction following injury was one of guilt with emphasis on destruction of others or of themselves. The injury was apt to be regarded as punishment for wrongdoing and the patient might express the idea that he deserved the accident. This was quickly repressed and there followed a concentration on the injury itself.

In general the term "accident prone" would seem to imply a certain purposiveness, or motivation toward accidental injuries. The dictionary definition of prone as "mentally inclined or disposed, or bent; propense, apt—usually in a bad sense as prone to evil," does not seem to imply purposiveness.

However, in present day dynamic psychiatric thought much of human behavior which is apparently unmotivated or happenstance is regarded as being unconsciously motivated. It would seem important not to confuse the psychological use a person makes of an illness or injury once it has occurred with motivation to fall ill or to inflict self injury. Certainly it is not at all uncommon for children to look on illness as punishment for misdeeds. One catches a cold because he did not obey mother and wear his rubbers or the cold goes on to pneumonia because he failed to take care of himself.

In looking over the information we acquired on the two groups of children we have tried to take into consideration not only the possibility of motivated injuries but also the possibility that the child might find himself in predicaments where injury was

inevitable. A priori it seemed feasible to consider possible factors involved in repeated accidents under these two general headings:

Individual Motivation: 1, guilt problems with self punishment, atonement, or anger turned back on self; 2, recapture of love with atonement, stimulation of a protective response in parents, attention; 3, revenge, especially against parents through punishing them; 4, riddance of painful tension; 5, emulation of older sibling; 6, increased self esteem through group acceptances, taking risks to show how courageous or grown-up he is, injuries signifying a badge of courage; 7, thrill of danger, "fusion of pain and pleasure"; 8, great curiosity which happens to bring child into hazardous situations.

Other than Individual Motivation: 1, defective control over emergency emotions, or overpowering emergency response; 2, impulsivity, inability to inhibit, victim of a whim; 3, hyperactivity, "constitutional," usually involving clumsiness or secondary to anxiety; 4, inability to grasp potential danger in situations as learned from past experiences; 5, inadequate control and education, parental and other; 6, environment which is especially hazardous; 7, chance environmental circumstances.

Any conclusions to be drawn from this study of 9 accident repeaters and 9 non-accident children must be tentative.

The group is small and not susceptible to statistical analysis.

This is a preliminary report of progress and a great deal of the material, especially from the psychological test battery has not yet been carefully analyzed.

We can say with assurance, however, that the approach has given us a great deal of usable information. We can understand on the basis of our observations the kind of child with whom we are dealing, his family, and factors which have contributed to his present status.

Some of the information would seem helpful in evaluating the accident habit or in understanding why a child does not have accidents.

All who have been concerned with the investigation feel strongly that any conclusions reached thus far must be applied to

accident repeater children in general with great caution.

Our groups of children certainly represent two extremes on the accident scale. They are, however, exposed to the same neighborhood environmental hazards and attend the same schools. They are comparable in intelligence as measured by formal tests: Accident Repeaters—Stanford-Binet I.Q. range 85 to 155, average 114; W.I.S.C. I.Q. range 85 to 126, average 104. Non-accident—Stanford-Binet I.Q. range 81 to 139, average 112; W.I.S.C. I.Q. range 79 to 120, average 103.

The children in both groups did not impress any of the study staff as being seriously emotionally disturbed to the degree of the children usually seen in the Pediatric Psychiatric Clinic.

The accident group has a high percentage of Roman Catholic children; this holds for all of the children who were considered for the study.

The children with repeated accidents seen in the emergency clinic came, with three exceptions, from an area of poorly repaired, dilapidated tenements with inadequate play space and recreational opportunities. This particular neighborhood area has a high percentage of Roman Catholic residents.

It was of interest that although children with isolated or occasional accidental injuries came to the emergency clinic from both this slum area and an adjacent neighborhood equally accessible to the medical center, only 15 per cent of the children with repeated visits were from the better housing area. It is thought that this probably represents an increased accident hazard in the poor housing neighborhood. The homes, however, of our non-accident group were also in the poorer area.

We shall attempt to summarize the findings of the various examinations to date and to indicate trends where analysis of the data is not yet completed.

Little of significance was turned up in the physical studies. General physical examinations revealed but few abnormal physical findings. Children in both groups were healthy and free from gross defects. The accident children showed scars of old minor injuries, and in most of them fresh bruises and scratches were observed.

Neurological examination was completely normal in all of the accident cases except

in one boy who showed a minimal impairment of skilled movements.

Of the non-accident children two showed slight clumsiness in succession movements, one pseudo-athetotic movements of the outstretched hands, one an absence of associated arm swings, and another a drift of the left hand with an equivocal Babinski on the left.

These findings in five of the non-accident were minimal and were not thought to be indicative of central nervous system disease.

Ophthalmological examinations revealed normal visual acuity in all but one of the children of each group. One non-accident child was myopic and one accident child had diminished visual acuity in one eye due to an old corneal scar resulting from an injury. The same boy had some fusion difficulties. Two of the non-accident children had mild fusion difficulties. All other children had normal muscle balance and both groups showed normal depth perception.

The electroencephalograms are more difficult to evaluate. Only one child showed "normal" findings throughout; he was the oldest of the accident group. Five of the accident and six of the non-accident children had basically normal records; two from each group were borderline; one from each was classified as abnormal. One accident case had a mildly irregular record. Only one of the children showing questionable neurological signs showed any EEG irregularity, a non-accident child with borderline findings. All of the non-accident children showed abnormal responses to hyperventilation; 6 of the accident group were described as abnormal, 2 borderline and one normal.

The significance of these EEG findings is not clear. The records were not looked on by the interpreter as being usual ones for children in this age group. None of the abnormalities was of the type seen in convulsive disorder.

The findings, however, do not differentiate between the two groups of children.

Evidences of mixed laterality were suggestive in 2 of the accident children and 4 of the comparison group.

Gross estimates of coordination in the general physical and neurological examinations were of normal motor coordination. In the coordination tests described above there was little to choose between the perform-

ance scores in the two groups when each child was compared with his age mate. A difference was noted in the approach of the children to these tasks.

The accident children tended to hammer or saw in a less controlled and cautious manner than the non-accident children.

There were a fair number of hospital admissions for infections (otitis media, pneumonia, adenitis, 1 poliomyelitis) in the accident group.

These were not seen in the non-accident group but these children had been selected on the basis of a good health history.

The accident children were not significantly free from illness; Dunbar has reported that her patients with repeated accidents had a low incidence of disease.

Both groups of children were well aware of "dangerous and potentially dangerous situations.

The non-accident children in their daily lives managed to keep away from them whereas the accident children did not.

Seven of the non-accident children had had some accident prevention education at home; insufficient information is available on the other two.

Of the accident children information about accident education at home is available in 5 instances; 3 children were given some instruction by their parents, 2 were not.

Insufficient information is available about the school accident education programs of the non-accident children to allow any conclusions.

The mother of the same two children who received no home training reported that none was given at the school. Three accident case parents went over the accident hazard check list with their children.

The accident group of children and their parents showed a markedly casual attitude toward the injuries. One mother was fatalistic and felt that "accidents just happen." The children tended to take care of minor cuts and scratches themselves without turning to their parents. The hospital records indicated in at least 10 of the accidents surprising lapses of time between the injury and arrival at the emergency clinic. A boy was brought in for inspection of a lacerated hand which had occurred a month previously and had pretty well healed without infection. A child with a fractured

clavicle was brought in two days after her fall. Another patient with an eye injury with moderately severe bleeding came in five hours later. A boy who stepped on a nail came in one week later for medical attention.

In the group studied the factor of secondary gain from the injury would not seem to be important.

Two of the accident children and one of the non-accident children came from broken homes.

Epilepsy was reported in the family histories of 2 children, one from each group.

The father of the brother and sister in the accident group was alcoholic as was the father of two boys, one in the accident and one in the non-accident group.

The mothers of five of the accident children worked outside the home; only one of the non-accident mothers was employed; as an apartment house superintendent she was around the house most of the time.

The most striking findings had to do with the incidence of accidents in other members of the immediate family and in the collaterals.

Accidents occurred in other members of the immediate family in 7 of the 9 accident cases and in only 3 of the non-accident families (one of these was the family which also provided an accident child to the study).

Accidents occurred in the collateral family lines of 8 of the 9 accident cases and in only 2 of the non-accident group (one of these was the same family which had a child in each group).

Some of these families had rather lurid accident histories. A maternal uncle of one of the boys was killed in a fall out of a window at 3 years. His paternal grandfather died of injuries sustained in an elevator crash. A paternal aunt was struck and killed by a car at 24 years. A paternal uncle was seriously burned as a child when he pulled a vat of boiling water over on himself. A paternal aunt lost two children through accidents; a baby choked to death on something given it by another child while outside in the carriage and an eight year old boy died when a glass mantle, dislodged by people dancing overhead, fell on him as he was doing his homework. The boy's father as a child was struck on the head by a thrown can of milk which became im-

bedded and had to be pried loose by a physician; he was also spiked playing baseball.

In both groups of children home discipline in general was characterized by inconsistency with explosive crackdowns. Neither group of parents as a whole could be called grossly punitive or cruel. Most of them impressed the staff as being basically warm people even when "bopping" their children.

The general impression, however, was that the non-accident parents were closer to the children and supervised them more closely. They had less trouble setting limits on their children's activities than did the accident parents.

The accident parents seemed less in tune with their children and more distant; there did not seem, however, reason to refer to them as grossly "rejecting" parents.

The homes of the accident children if anything were more congenial and the families seemed to have more fun together than did the non-accident families.

The distinction between "closeness" and "distance" in the parent-child relationships would seem to be important although this is a rather difficult finding to describe. It is apparent in photographs of mother and child in the two groups. In the non-accident cases there is a "togetherness," mother and child look as if they were aware of each other.

In the accident cases there is an "apartness" as if mother and child were each standing for the camera alone without much awareness of each other. These characteristics of nearness and distance are apparent in contacts with the child and parent.

One of the outstanding differences between the two groups of children is the way in which the accident children form pleasant if superficial relationships with adults. They seem to like to be with grownups, are friendly with them and have rather winning ways. The adult finds the accident children likeable.

The non-accident children do not show this characteristic. They stick closer to their parents. It would seem that the non-accident child is able to get more security in his relationships with his parents and does not have to turn in a pseudo-social independence to other adults.

The non-accident boy from the accident family has built up close relationships with adults in his father's family and does not show this characteristic with other adults.

The non-accident children are more dependent on their families, timid on the whole and not venturesome.

The non-accident children are submissive to authority; the accident tend to accept authority with overt criticism at times, and particularly in the younger children there is a fluctuation between acceptance of adult authority and overt defiance.

As yet we have not discovered in our case material evidence that one group or the other is more fearful or has more pent up aggression and resentment.

Our material does not seem to justify any conclusion that the accident children have more guilt or self destructive drives than the non-accident.

We have no evidence as yet to support the presence of primary conflict in the authority-hostility area. Perhaps further working over of our material, particularly the Thematic Apperception Test responses, may give some clues in these directions.

In going over the accumulated observations on the accident children it seemed as if they could be tentatively divided into three groups on the basis of their general behavior and reactions. These will be briefly summarized.

The accident child in one group is overactive and restless. He tends to be impulsive. He is well liked by adults but not well liked by his fellows. He does not get his dependency and security satisfactions at home. He tends to want to be older than his age and to overextend himself in his activities as he tries to keep up with his ambitions or seek acceptance by the group. He does not retreat from dangerous situations. He has a poor reaction to stress, becoming more impulsive and disorganized. Some of the accidents occur during this stress disorganization. Under stress he does not recognize or heed danger signals. As yet there has not seemed to be a specific type of situation which produces the disorganizing anxiety. The Rorschach data (many undifferentiated color responses) are in keeping with the breakdown of controls under strong emotional stress.

In order to see if there was any measurable breakdown of kinetic control under stress we have tried photographing the eye movements with an ophthalmograph during reading and again after threat of an electric shock to create a crude stress situation.

Incomplete studies suggest that the accident children show gross changes in the eye movement patterns after the threat while the non-accident children show lesser changes. It is planned to follow this with further study.

The accident repeater child described above would seem to get into situations where accidents were inevitable if he is under stress. The accidents then might well be unmotivated and the defect be a developmental one in the ego control mechanisms.

In our accident patients we could see two other types of children, one related to immaturity, lack of parental supervision, an insistence on the part of the child on autonomy and self determination, and competition in activities with older children in a hazardous environment.

The other typified by a resentful, hostile boy who views his home as bleak and empty, a boy who prior to his beginning to have accidents three years ago presented a moderately severe conduct disorder. As this has cleared, his general overt behavior has become less resentful and rebellious. This boy does show pent up rage and aggression; he does salvage some attention from his mother when he is injured. These accidents may well be motivated. In a longer series of cases it is possible that even more personality types would emerge.

The non-accident group was more timid, submissive and controlled than most children. This may have been a fault of selection. It would seem better to obtain non-accident children selected by a teacher and school nurse rather than rely on children already registered in the hospital clinic.

Further studies should be done on a group of accident repeater children who are not on the extreme end of the accident scale. With such a group a larger number of children could be more easily obtained and the number of personality types might well be greater.

One difficulty experienced was our inability to get from the children or their parents much of the emotional overtones and feelings centered around the times of specific accidents. This may be related to the fact that many of the accidents were "cold" in that they had occurred some time before, but we were unable to get much information even when the accidents occurred during the course of the study. This might be related to the emotional and behavioral disorganization in the children at the time of the accidents, or even to the age of our subjects.

It would seem well, however, to plan a study which would see children at the time they were brought in to the emergency clinic. This kind of investigation might produce this information which we were unable to get consistently.

References

- Accident Facts, 1951 Edition, published by National Safety Council, Chicago, Illinois
 Ackerman, N. W. and Chidester, L.
 "Accidental" Self Injury in Children
 Arch. Pediat. 53, 711, 1936
 Bakwin, R. M. and Bakwin, H.
 Accident Proneness
 J. Pediat. 32, 749, 1948
 Birnback, S. B.
 Comparative Study of Accident Repeater and Accident Free Pupils
 Center for Safety Education, New York University, 1948
 Dunbar, F.
 Psychosomatic Diagnosis
 N. Y., P. B. Hoeber, 1943
 Fabian, A. A. and Bender, L.
 Head Injury in Children: Predisposing Factors
 Am. J. Orthopsychiat. 17, 68, 1947
 Fuller, E. M.
 Injury Prone Children
 Am. J. Orthopsychiat. 18, 708, 1948
 Fuller, E. M. and Baune, H. B.
 Injury Proneness and Adjustment in a Second Grade: A Sociometric Study
 Sociometry 14, 210, 1951
 Klein, M.
 The Psycho-Analysis of Children
 London, Hogarth Press, p. 218, 1937
 Langford, W. S.
 Physical Illness and Convalescence: Their Meaning to the Child
 J. Pediat. 33, 242, 1948

Discussion of Pilot Study of Childhood Accidents

By HELEN ROSS
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"Accident proneness" was first suggested as a symptom several years ago, and soon became a popular diagnosis.

The study made by Doctor Langford and his colleagues is among the first efforts to describe and explain accident proneness among children, and is therefore a highly laudable endeavor. We need evidence, scientifically established, of the existence of this symptom, and we need a study of its etiology.

This study has attempted both. As in many similar efforts, it was not so easy to set up a goodly number of cases, and as Doctor Langford suggests, the conclusions reached in this progress report are not to be given undue weight.

This study has further value in that an equal number of non-accident children were studied also.

Since this study was done through a hospital, only those accidents bad enough for hospital care came to attention, yet children do have accidents that do not call for hospital service. It would be exceedingly interesting to know of Doctor Langford's group, how frequently the accident children in comparison with the non-accident group had minor accidents at home and at school and of what nature.

To establish with more precision who are the accident-prone children would require an extensive knowledge of the less serious hurts encountered in everyday life, not that these little accidents are in themselves important, but that they provide information about the general personality structure of the child. For if we find accident proneness is an entity, then we should learn how to recognize it earlier and following that, attempt to formulate an etiology which would help in the whole study of prevention.

A study of accident proneness in children may be approached in several ways. One is through observational studies. Parents, teachers, camp directors are in a better position to make such observations than the physician, because of their closer touch with the child. The summer camp offers an excellent opportunity for such observa-

tion. Years ago, before I knew the term, accident proneness, I recognized in my summer camp the tendency among certain children to have more than their share of accidents. "There goes Jane again," or "Who do you suppose fell out of the boat? Mary, of course." I had only girls in this camp.

I learned, too, that there were two ways to approach safety in the camp. One, to clear up hazards in the environment; two, to consider what went on inside the many-accident child. More and more we learned how to handle the hazards; we turned to a consideration of the individual child.

And so I came to isolate three general types who were prone to accidents: the show-off; the discouraged; the reckless.

The show-off takes risks to prove himself not timid. In his insecurity, his judgment is poor; he over-compensates his timidity and fear.

The discouraged child might react in two ways: he would retire from all competition and thus be safe, or he would enter an activity with the conviction he would fail, and fail he usually did. He is the blunderbuss child.

The reckless child's attitude is often one of defiance to rules of all kinds; he has a strong resistance to authority and plunges into activity defiantly and impulsively, often coming to grief.

Doctor Langford's categories are similar to the above. He has also given us some interesting hints as to the role of parental attitudes as causative factors. My own experience both clinically and as a matter of observation would corroborate his findings.

One factor we could observe at camp, which Doctor Langford had no opportunity to observe, was the "accident epidemic." Maybe girls are especially prone to this type of hysterical accident which often broke out during a camp season. A rash of sprained ankles was always anticipated after a favorite councillor or a popular older girl would suffer some mishap to her ankle, particularly if done in a dramatic way.

This is mentioned here in order to give some weight to the mechanism of identification in accidents, which was noted by Doctor Langford in his paper.

The second approach to this kind of study is that used by Doctor Langford, a descriptive statistical study on a broad basis which yields information about the symptom, some guides for further studies, and some suggestions for preventive measures.

The third approach to our subject is the purely psychodynamic, suggested also by Doctor Langford's findings. By means of

more intensive studies of a few cases, we might learn much more about the etiology of this symptom in all its ramifications. We would thus see the interaction of parental attitudes with children's behavior, the influence of specific trauma, the influence of identification with the parent or siblings, the use of accident to gain love and attention, the selection of this masochistic solution to meet emotional needs, and so on.

Every study of accident proneness in children should arouse us, as this one does, to the preventive aspects of the subject.

Discussion of Pilot Study of Childhood Accidents

By REYNOLD A. JENSEN, M.D.
University of Minnesota, Minneapolis, Minn.

It is a pleasure to comment on the interesting report of the past year's work done by Dr. William Langford and his associates on "Accident Proneness in Children."

We are fully aware of the real importance of the general problem of accidents and injuries to children in our country today—one about which everyone should be concerned. In reality it is one of our major current medical problems. For example in the State of Minnesota, accidents accounted for over 33 per cent of all deaths in children from 1-14 years of age in 1950.

While the over-all problem of accident and injury in children is important, that of the child who is injury prone is of especial significance since so little is known about it. It is to this particular group Dr. Langford and his associates have directed their attention and effort. The report is a pilot study, which all of us should not only welcome now, but, also, for future reference.

As human nature and behavior is exceedingly complex, it is difficult to study it scientifically due to the large number of variables involved. Many of these have been anticipated and included in this study. The approach has been on a broad base including not only historical data on the child, parents, and family, but also careful, detailed physical, neurological, as well as psychological studies and personal interviews; also a contrast or comparison group has been included—a must in scientific research.

In the study of this report, it occurred to me more definitive data regarding parental

attitudes, personalities and family organization might have been collected by the use of the several rating scales available and the projective tests such as the Rorschach and Minnesota Multiphasic. These might prove useful.

While Dr. Langford and his group report few positive physical findings, it occurred to me the judicious use of metrazol might have brought out latent differences in the electroencephalographic findings.

Dr. Langford has wisely avoided formulating conclusions on the basis of the work done to date. One may ask what contributions this study has made to date? I believe they are several:

1. Much work has been done in defining the injury prone child. The task of defining who is the injury prone child for purposes of this work, was a difficult one. The careful thought given this, as well as the many other intrinsic factors, may well serve as an important guide to subsequent studies made by others.
2. Further evidence the injury prone child is different from his peers has been presented. What this difference is remains to be answered.
3. The need for sharpening current instruments of study is obvious. It may be necessary to develop others. The use of the ophthalmograph suggests possibilities for many clearly delineating definitive important physical differences between the injury prone child and his peers. While these may appear minimal, they may prove significant.

4. Several pitfalls have been clearly delineated which should be avoided by all interested in research involving children. Among the most obvious are a. the fallacy of reasoning backward to children from studies done on adults with comparable problems, b. the need for exercising caution in formulating conclusions or interpretations too early and c. the danger of making "too much of too little."

5. A standard has been set for future studies.

Again Dr. Langford and his associates are to be commended for the careful thorough manner in which they have approached an extremely difficult assignment. Also to be commended is the Metropolitan Life Insurance Company for its financial support for this study. It is to be hoped others may become interested in supporting similar studies which may develop in the future.

"Accidentally Speaking"

A radio dramatization sponsored by the Health Information Foundation to show the challenge of child accidents as an important public health problem and examples of cooperation between physicians and safety groups to reduce accidental death and injury in children. The first of a series of half-hour programs, "The 40,000,000," for nationwide broadcast over NBC by the Health Information Foundation.

VOICE: (*Pleased with himself*) There it is again . . . my sound! An ambulance speeding on a disaster call because I've won again! Me . . . the greatest killer of children in America. More deadly than (*tastes each word*) pneumonia . . . cancer . . . tuberculosis . . . polio . . . heart disease combined! Yet . . . yet, my friends, you have the antidote . . . the "vaccine" . . . that will guard against me . . . protect your child—if . . . (*challengingly, deliberately*) if you have the will and the wit to use it.

MUSIC: (*Opening theme, in and down under*)

ANNCR: Health Information Foundation, in conjunction with NBC, chooses this . . . the meeting-time of the American Academy of Pediatrics, and the 40th National Safety Congress here in Chicago . . . to strengthen our defense against the nation's biggest threat to the health and safety of your children—with a special program starring Gene Lockhart and entitled—

MUSIC: *Out.*

VOICE: (*Says it as if in conversation*) "Accidentally speaking. . ."

ANNCR: And now—once again—the villain of our story, played by the distinguished American actor, Gene Lockhart!

MUSIC: *In and under*

VOICE: (*Self-assured; offensive, yet fascinating*) Riddle me this, will you? Have you vaccinated your child against small pox? Diphtheria? Whooping Cough? Of course you have.

VOICE: But have you had your child vaccinated against me? Against accidents? (*Laughs, as if to say "That's what I thought"*) Silly you! Why, accidents—if you permit me to quote—are "childhood's greatest health hazard." Accidents kill thirteen to fourteen thousand children under fifteen years of age every year! Think of that—one-third of all the deaths of children in America . . . one out of three—that's me. (*Sarcastically*) Is there any wonder, when you look at what I'm able to accomplish in a single year, that doctors are sometimes inclined to get a little—bitter, shall we say?

MUSIC: *Out*

DOCTOR: Some of my patients actually do more about pimples than poison; bowels than burns; diaper rashes than drowning. . .

VOICE: (*Aside out of scene throughout, but baiting him.*) Come, come, Doc . . . don't get discouraged. . .

(*Suggestion of baby cooing in bg*)

MOTHER: There, there now, honey.

DOCTOR: (*In scene, unaware of voice.*) I don't get discouraged, Mrs. Johnson, because in my work with children, I'm find-

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ing more and more parents like yourself, who are doing something about accidents instead of just worrying about them.

MOTHER: Well, Dr. Davis . . . as I say, I want to do everything I can to protect my child . . . but . . . (*Helplessly*) but accidents. There's just no end to the possibilities! And, well—I can't be with my child every moment of the day, can I?

VOICE: (*Pleased with that fact*) How true, lady. How very true.

DOCTOR: True . . . very true, Mrs. Johnson. And no one would want little Jerry, here, to grow up fussed over and frustrated. But—there is what you might call a formula for child safety that many of us doctors have come to accept . . . a formula you can apply for your child's own good.

MOTHER: A "formula," doctor?

VOICE: (*Sarcastically*) Formulas! Yaaa!

DOCTOR: Yes—a pattern which in a sense will be a vaccination against this threat. (*Perhaps baby starting to cry*)

MOTHER: (*Soothingly*) There there now, baby. . . .

DOCTOR: (*To baby*) What's the matter Jerry boy—we boring you?

(*Baby quiets*)

DOCTOR: (*Resuming*) What I mean to say, Mrs. Johnson, is that we've learned that certain types of accidents are most common at certain specific ages. We know, for example, that at 4 months your Jerry is not likely to be involved in a fire-arm accident . . . but can often be in danger of—let's say—drowning.

MOTHER: (*Slight gasp*) Oh. . . .

VOICE: (*With an evil chuckle*) Water, water, everywhere. . . .

DOCTOR: From what we've learned, we've concluded that safe conduct is essentially a habit. In this picture, as we see it, the job is to help inspire the *kind* of behavior that will safeguard your child through the various stages of his childhood. . . .

MOTHER: But how?

DOCTOR: I'm coming to that. There are two keys to this safety formula of ours—protection and training.

VOICE: (*Aside, sarcastically*) And patience and fortitude!

DOCTOR: From birth to walking—accident prevention is quite simple. It's a matter of 100 per cent protection against hazards . . . and that's where you come first.

MOTHER: You mean—if my baby is seriously hurt in this early period—

DOCTOR: The sad fact, I'm afraid is—you actually have no one to blame but yourself. Somehow you didn't give your child the protection he was entitled to. But in this next stage—he begins to share in the blame, and finally—when he gets off to school, and so on—he must take the whole responsibility himself . . . or at least, most of it.

MOTHER: Where does training come in?

DOCTOR: All during the first stage, when he's not able to look after himself and needs your protection, you've got to work at teaching him about the things that will harm him—preparing him for the day when he'll be on his own. That's where training comes in.

DOCTOR: That calls for hard work on your part—time, foresight, discipline.

MOTHER: Well—he's worth it.

DOCTOR: In short, you start out as a protector and end up a teacher . . . your role as a protector gradually diminishing as Jerry grows, (*Fade*) until the day come when. . . .

VOICE: Rubbish!

Music: *Covers and under*

VOICE: (*Defiantly*) The day will never come when I'll be out of business. Why, I've been around ever since you humans had the bad luck to fall out of a tree into the path of a sabre-toothed tiger. And no pediatrician—or son of a pediatrician—is going to start now to interfere with my . . . my appointed rounds. (*Sudden doubt*) I can always count on the natural curiosity . . . the boundless energy of your children—that's no different than it was in the stone age. But enough of this idle chatter. I must do my duty . . . let me see, where shall I start "My Day." When in doubt, I can always consult my little "*Black book*"—when I have it here. Ah . . . Mrs. Robert Jones . . . 44 Maple Place. They've a new baby at the Joneses their first. Supposing I drop in—*accidentally*. . . .

Music: Up and out

(Baby being bathed. Baby gurgling . . . water splashing . . . mother humming happily at work)

MOTHER: There you are, you handsome little thing. Just a little bit more and baby will be nice and clean!

VOICE: *(As if peering over mother's shoulder.)* Nice, cute baby, isn't it? Can't be more than six weeks old. You know, I have wonderful luck with tiny babies around this age. Drawstrings on sleeping garments . . . poisonous paint that papa may have put around the crib for a child to chew on. . . . But water . . . ah! With the help of friend water, I score 2,300 children's deaths a year—swimming, wading, falling off river banks. But even with little children at home—even with little children right under their mother's nose *(stops)*—here, let me show you.

Sound: (The sudden ringing of a telephone.)

MOTHER: *(Nervously, worried.)* Oh, dear, the telephone!

VOICE: Listen.

Sound: (Phone urgently.)

MOTHER: *(Confused.)* What am I going to do!

VOICE: Do? . . . I'll tell you what she'll do. She'll either leave the baby on the bathinet "just for a moment." . . . Or put her on the double bed, because "it's so big," you see . . . and then . . . then foolish woman, I happen. Watch!

Sound: (Phone up, insistently.)

MOTHER: Oh, for heaven's sake! I wonder who that can be?

Sound: (Phone up.)

MOTHER: *(Torn.)* But I can't leave you in this tub, baby, goodness knows . . . and I don't have time to dry you and get you to your crib. . . .

Sound: (Phone up.)

MOTHER: *(Weakening.)* 'Course I could put you on our bed . . . it's so big you couldn't fall off—and it would only be for a moment. . . .

Sound: (Phone, long persistent ring.)

(Suddenly deciding.) No! . . . let the darn thing ring! You're more precious to mother than any phone call. If anybody wants me bad enough, they can call again later!

Sound: (Phone ringing, as water splashes, mother resumes humming.)

VOICE: Well! . . .

Music: In and under.

VOICE: *(Surprised, hurt.)* Well of all—can you imagine? A woman, too? What's gettin' in to the mothers of the world these days? Why if this sort of thing keeps up—mothers using their heads like that—why, next thing you know people'll be checking leaking gas jets and clogged flues, and building fences around garden pools and—why—, why a self-respecting accident will hardly have a chance to happen!

Music: Up and out.

VOICE: *(Disgusted, taking new tack.)* Pox on Mrs. Jones and her uncommon common sense! Let's move over to Mrs. Wheeler's. She's got a toddler. *(With new anticipation.)* I love to work with toddlers. . . . They're so new to the world and everything's so exciting, they just can't help doing what they shouldn't.—Come . . .

Sound: (Dishes being stacked away.)

2ND MOTHER: *(Finishing with sigh.)* There. . . . That cleans up the breakfast dishes! Now, Susan, I've got to go downstairs and get my laundry in. I'm going to leave you in the kitchen alone for just a minute . . . and I don't want you get into anything, you hear? Play with your kitty-cat on the floor and I'll be right back up in two shakes of a lamb's tail. Um . . . there's a big kiss for you . . . now, be good!

Sound: (Basement door opening, closing, mother's footsteps fading down stairs.)

VOICE: Um . . . *(Anticipating.)* Accidentally speaking, this is what you might call a perfect set-up, eh what? The mother downstairs where she can't hear what's going on upstairs. And little Susan upstairs, just at that age where—where I especially like them. And "thar she goes! . . ."

Sound: (Toddler patter under, if possible.)

VOICE: Yep, off across the floor—hands and knees—to the cabinet under the sink.

Sound: (Kitchen cabinet door, open.)

VOICE: *(Delighted.)* There goes the door . . . and out comes—

Sound: (Stuff thumping on floor under.)
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beans . . . a jar of pickles and—yes, I knew it!—a box of—guess what—insect powder! (*Laughs.*) (*Then.*) Go ahead, Susan . . . open it, that's a girl . . . nothing to it, is there? Just lift the top where it's already been opened and there it is—nice green powder. (*Eagerly.*) Now Susan. . . Now, Susan, listen to me. Stick your hand into the green powder, little girl. That's it . . . looks pretty, doesn't it? Now . . . lift your hand to your mouth—(*encouragingly*) good, fine Susan; Now . . . (*deliberately*) do what I say—eat it. (*Laughs, the laugh stopping suddenly.*) What's wrong child? You've got what you wanted. Don't just sit there. Put the nice powder in your mouth—

Music: (Fantasy type, to bridge us to the scene Susan is thinking about.)

2ND MOTHER: (*In scene.*) More dessert, John?

JOHN: No thanks. Coffee, that's all.

2ND MOTHER: (*Suddenly noticing.*) What on earth are you up to?

JOHN: Just going to give Susan, here, an object lesson, that's all. (*Casually.*) Don't worry, it won't hurt her. . . .

2ND MOTHER: But what—

JOHN: Get the coffee, will you? You don't think I'd do anything to harm the child, do you?

2ND MOTHER: (*Disturbed.*) Now look here, John, I—

JOHN: (*Patiently.*) You said you found her eating something she shouldn't yesterday, didn't you?

2ND MOTHER: Yes, she got into the jar of jelly before lunch, and—

JOHN: All I'm doing is substituting this jar of mustard for the jar of jelly—and putting it where she can reach it.

2ND MOTHER: But why—

JOHN: All right Susan—reach for it, but you're not going to like it! There—what did I tell you! Boy, what a face!

2ND MOTHER: (*Aghast.*) Susan!

SUSAN: *Bawls bitterly as mustard burns her tongue.*

2ND MOTHER: John, that's vicious! Poor Susan—I never in all my life—

JOHN: Just a little bit of harmless education, that's all . . . so she'll be careful what she eats next time.

2ND MOTHER: (*Bitterly.*) Don't speak to me!

Music: (Fantasy bridge, reversed, returning us to original scene.)

VOICE: (*Urging.*) Come on Susan, don't just sit there thinking about it. Nice green, luscious powder—down the hatch, what do you say?

Sound: Basement door suddenly opens.

2ND MOTHER: (*Catching scene: Horrified.*) Susan.

VOICE: Oh! Oh! Here comes mama.

2ND MOTHER: Oh, my heavens—poison! Insect poison! No! Naughty, naughty, naughty! Did you eat any—quick, let mother see your mouth! (*Relieved.*) Oh, thank God. (*Then, as she recalls.*) Well, Susan, I've got to hand it to daddy—you learned your lesson—and I've learned mine! I'll never leave stuff like that around again!

Music: In and under.

Music: Semi-curtain and under.

VOICE: Oh, well—I never waste time fretting over the chances I (*punning*) accidentally miss, but hie me off to greener pastures. I just sniff for dust, cock my ears and listen for this sound. . . .

Music: Out and into.

Sound: (Vacuum cleaner in and hold under.)

VOICE: . . . and then follow my nose to the nearest house where they're in the midst of house cleaning. . . .

Sound: (Up loud, then down slightly.)

WIFE: (*Young: off, loud above noise.*) Did you vacuum behind the radio, Mother?

3RD MOTHER: (*Older, mother-in-law . . . also loud.*) I will in a minute . . . if I can get Bobby out of the way!

WIFE: I'll get a chair and hang the curtains.

3RD MOTHER: All right, dear. . . .

Sound: (Down to hold faint in BG.)

VOICE: (*As if licking his lips.*) This is the kind of set up I really go for! Especially when there's a tiny kid in the house—the sort of half-creeping, half-walking type, like little Bobby, there. Electric cords all over the place . . . windows open to let in the air. (*Aside, pleased*) we're two stories high, here—and everybody busy as a beaver . . . too busy to keep their eyes on the kid! Yes, this is a set-up made for me . . . just wait and see . . . (*chuckles*). . . .

Sound: (Vacuum out.)

3RD MOTHER: (*Reporting.*) All through in the living room, dear.

WIFE: Okay, mother . . . unplug the vacuum and take it on to the bedrooms, will you?

3RD MOTHER: Right away. (*Then, exasperated.*) Bobby, get out from underfoot child!

WIFE: I'm about through at this window. I'll be right with you . . .

VOICE: So mother-in-law unplugs the vacuum and disappears—leaving . . . an electric socket—the avenue to 110 volts—wide open to danger!

WIFE: All done, mother, (*fading*) coming . . .

VOICE: And now daughter-in-law—finished hanging the curtains—goes out leaving the chair at the window that's wide open—*two stories* up from the cold, hard ground!—And now our little hero, Bobby, is left alone, has the choice of two exits from this world! One—he can take that fork he's picked up somewhere and stick it in that electric light socket and go by—*electrocution*. Or two—he can climb the chair, left so handily for him near the window by his mother, lean out and then—(*stops to laugh with eager anticipation.*) Well, there he starts! (*Tauntingly.*) Is there a betting man among you—which "accident" shall it be?

THIRD MOTHER: (*Coming back in.*) Oh, hello, dear. I forgot to put back this socket cap . . . to seal off this plug.

WIFE: Yes, and I want to get this chair away from the window—it's too inviting to you-know-who. Here, Bobby—want to help mommy move this chair?

VOICE: Aw, parents!

Music: (In and under.)

How I hate parents! Every day—fewer open socket . . . less frayed cords! . . . Fewer open windows. . . (*Sore.*) Whasamatter? Don't you trust your own kids any more! Or is it (*his conceit getting the best of him*) that you just don't trust—me?

Music: (Out.)

All right . . . so Bobby didn't get burned or fall out of the window. So what? For every smart mom or pop there are ten that are "Stupid" if you'll forgive my use of the word. Take for instance the paternal ancestor of this kid—

FIRST CHILD: (*Around 6: defending dad.*) My daddy has too got a gun!

VOICE: Hang around—(*fading*). And see see what I mean. . . .

SECOND CHILD: (*Around same age, defiantly.*) A gun just like Hop-a-long Cassidy?

FIRST CHILD: Better!

SECOND CHILD: Aw! Your daddy isn't a cowboy!

FIRST CHILD: He could be if he wants—'cause he's got a gun.

SECOND CHILD: (*Scornfully.*) Prove It!

FIRST CHILD: All right, wise guy, Come on!

Music: (Bridge.)

VOICE: (*Self-satisfied narration.*) They go into the house—Or, should I say, they *sneak* into the house. . . . (*Chuckles*) headin' for the "Last Roundup." . . .

FIRST CHILD: (*Whispering, warning.*) Be quiet, now. . . . Don't let anybody hear us.

SECOND CHILD: (*Whispers.*) Okay.

FIRST CHILD: (*Fading.*) This way. . . .

VOICE: (*Pleased as punch.*) Where's daddy? Working, of course. Where's mother? Who *knows*—up in the attic . . . down in the basement . . . taking her afternoon nap—who *cares*! The important thing to do is keep your ears on the kids . . . *they're* the ones with the trigger-happy fingers. . . .

FIRST CHILD: This is the room—close the door so nobody'll see us.

Sound: (Door closing quietly.)

(*Backing down.*) I . . . I'm not supposed to touch the gun.

SECOND CHILD: Aw, I knew you were fakin'! . . .

FIRST CHILD: (*Determined to prove him self.*) Okay—help me open this drawer. . . .

Sound: (Dresser drawer creaking open.)

FIRST CHILD: It's hidden under all this stuff. —(*Triumphantly.*) There . . . What I tell you!

SECOND CHILD: Boy!

FIRST CHILD: See . . . pearl han'le 'n everything.

SECOND CHILD: (*Eagerly.*) Shoot it!

FIRST CHILD: It's hard to pull the trigger.

SECOND CHILD: Go ahead—try.

FIRST CHILD: Okay—Don't move cowboy!

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VOICE: (*Aside, eagerly.*) Here it comes folks
—I can just see the headlines now: "A
five year old child was shot to death by
his playmate yesterday when"—(*laughs*).
Six hundred times a year!

FIRST CHILD: Now, ya dirty rustler—ya
reached the end of the trail. Draw!

SECOND CHILD: Shoot!

FIRST CHILD: (*Shooting.*) There! Take
that!

Sound: (*Loud click of pistol hammer—gun
unloaded.*)

Music: (*In and under.*)

VOICE: (*Surprised.*) A click! An empty
click. The gun wasn't loaded!!! Of all
the—Why, by all rights that boy's life
should have been mine—"death by acci-
dent!" Why, why, I always count on that
happy little phrase—"presumed to be un-
loaded." This father got by by the skin
of his teeth! But *next* time . . . *next* time.
(*Change.*) You think you're going to get
around me by *educating* your kids to be
safe, as they grow up. I've seen you.
I've stood right behind you and watched
you. . . .

Sound: (*Playground BG.*)

DAD: (*Urging his son on.*) Now, Dickie, if
you do this right you don't need to be
afraid—First, put your hand in this ring
here—now, your foot up here—that's it—

SON: (*About 5, slightly off.*) This is fun,
daddy. . . .

DAD: (*Fading.*) Sure it is—as long as you're
careful.

Sound: (*Fade out.*)

VOICE: (*Condescendingly.*) Yes. I've seen you
fathers. And I've listened to you mothers,
too. . . .

MOTHER: And just for that, Mary . . . just
for running across the road after that
ball, you're staying in for the rest of the
day.

GIRL: (*About 7 or 8.*) But it was my new
ball, mother!

MOTHER: Can you get a new arm—a new
leg? Can I get a new little girl?

VOICE: (*Sarcastically.*) That comes under
the heading of *discipline*, doesn't it. Dis-
cipline to help a child develop safe habits.
(*Sneers, then, patronisingly.*) Yes, and
I've seen your *schools* at work, too, mak-
ing with school patrols; and lectures and

movies on safety to fight—me. Humpf!
(*Going on.*) And don't think I don't know
why lots of you enroll your kids, later on,
in the Girl Scouts and Boy Scouts. . . .

CAST: (*Bg commotion as kids prepare to
leave for camp.*)

A MOTHER: (*Concerned.*) And do be care-
ful at camp, dear . . . out there in the
woods, won't you?

GIRL: (*12.*) Oh, mother, silly . . . 'course I
will. That's one of the things they teach
us in the Scouts—how to take care of
ourselves.

MOTHER: But still, darling—

GIRL: (*Eager to be off.*) Bye, mother . . .
(*fading.*) . . . Be seein' ya. . . .

Music: (*In and under.*)

VOICE: Yeah . . . I've eavesdropped on you
all—you, your doctor, your schools, your
organizations. And if you think, for one
accident-free minute, that you campaigns
are a match for me—(*laughs*). Well, let's
take a few of these older "educated"
kids you've been working on, and—see
what we see. . . .

Sound: (*In and building, noisy street traf-
fic.*)

VOICE: (*Carried away.*) Listen . . . how I
love that din! Baying horns, screeching
brakes, coughing exhausts—yeah, the
sound of street traffic is like sweet music
to my ears.

Sound: (*Traffic up and down.*)
And when you mix those sounds with
this sound—

Sound: (*Isolate and predominate—a bicycle
bell.*)

—the sound of a kid on a bicycle . . .
then I figure it's only a matter of time be-
fore I'm in business. (*Fade.*) Here's a
bunch of them now!

CAST: (*Ad lib noisy bunch of kids standing
with bikes.*)

Sound: (*Street traffic in bg.*)

JOHN: (*About 14, calling out.*) All right,
everybody—we got to scam if we're going
to get to the ball game on time!

MARY: (*About 14.*) Let's cut across Bleeker
Street—it's faster.

JOHN: That's "one way," going the *wrong*
way for us.

MARY: Oh. . . .

BILL: Even with bikes?

JOHN: Even with bikes—same as with cars, you know that, meathead! We gotta obey the same rules!

AGNES: Hey, I got a flat. I'll leave it here at Henry's and ride somebody's handlebars.

MARY: Not mine.

BILL: Not mine.

AGNES: (*Sore.*) Whose a drip, now?

JOHN: Don't be a schmo, Aggie . . . you know the rules as well as we do. Take the bus. (*Calling out.*) All 'board, gang—and remember—we're ridin' single file, close to the curb on the right side o' the road. Get hep!

Sound: (*Chorus of bicycle bells as prepare to ride off.*)

VOICE: (*Disgusted.*) And this is the youth of America! No guts, no courage . . . letting somebody talk them into killin' the thrill by obeying the rules! What are you trying to breed—a generation of sissies? (*Slyly.*) 'Course I must admit they live longer that way . . . but don't forget—there are three thousand, five hundred child deaths alone from motor vehicle accidents—one-fourth of all child deaths by accident! (*Music.*) Is there any wonder that I've seen you parents quake in your boots, when your child comes of age—whatever age may be in your state—for a driver's license? I'm sitting in on just such a scene right now . . . at the Wilson's, who have that pretty white bungalow with the two-car garage on Maple Street.

(*Fade.*) Listen. . .

SON: (*High school age, cautiously.*) Dad. . .

DAD: Yes, son. . . By the way, where's your mother?

SON: She promised to stay out of this.

DAD: Out of what?

SON: What I'm going to ask you.

DAD: Oh. What are you going to ask me?

SON: About the car—

DAD: It's no use. I've decided not to get a new car this year. Our tires are still good and—

SON: No, about *me* and the car.

DAD: You and the car?

SON: Yes, Dad, I . . . I got news for you. I passed the driver's test this morning!

DAD: (*Surprised.*) You . . . passed the driv-

er's test? How could you, I took the car to the office and—

SON: I took the course at school—the driver's training course.

DAD: Well, of all—

SON: (*Quickly.*) Dad, what I want to ask you is this—we got a two-car garage. Is it all right if I used the 75 bucks I earned this summer to buy a jalopy. It's a swell buy and I can fix it up 'n—

DAD: Wait a minute, wait a minute. Things are moving too fast for me, here. You passin' the driver's test. . .

SON: First shot, too, Dad; The policeman said I was a good driver and—

DAD: Wait. The question is—do you pass my test, too?

SON: Your test? Why, you've seen me drive, Dad, and the State test is the only one that counts.

DAD: Not with me. With me it's—have you proved yourself *responsible* enough to be permitted to drive a car?

SON: But gee—

DAD: (*Fading.*) Let's go over your record. . .

VOICE: (*Disgruntled.*) This is a *new* one on me! What's the old man handin' the kid, anyway?

DAD: (*Fading back on.*) Then I think we can conclude, son . . . that since you've proved yourself pretty careful all your life . . . and since you're a level-headed kid and have shown you can take responsibility, then I'm willing to act favorably on the state's endorsement of the fact that you can drive, which is only *one* part of the picture as far as I'm concerned.

SON: You mean—?

DAD: Congratulations, son . . . and we'll fix up the jalopy together!

VOICE: (*Disgusted.*) Blitzed again!

Music: (*In and under.*)

VOICE: (*Staring the close, defiant, belligerent.*) So you think you're smart, you with your National Safety Council meeting in Chicago today . . . you with your pediatricians and all their talk about "Accidents—Childhood's greater health hazard!" You think you're smart enough to cut down on my take of 14,000 kids a year, and the maiming of over a million and a half, by making your fight against me a *health* program! Go ahead—I defy you! And

while you're at it, keep your ears open. Listen for me, I say, because even tho' you can't see me you'll hear me around in a thousand common sounds every day . . .

(Screeching brakes)

That's me—"motor vehicle fatalities" 3,500 lives every year! . . .

(Kerosene stove exploding)

That's me—"explosions, scalds, burns . . . 2,700!

(Splash as if falling overboard)

Me—Drownings . . . 2,300 lives!

(A scream: the thud of a fall)

Falls . . . 900!

(Gunshot)

Firearms . . . 600!

(Roaring, railroad train, train whistle)

—Railroad crossings . . . 300 children annually! To say nothing of suffocation, poisons, and poison gas, and a hundred and one other ways I have of—*accidentally speaking*. (Pause, satisfied.) I know my duty. (Bitingly.) The question is—(Challengingly, deliberately.) Do you know yours?

Music: Sweeps into curtain.

ANNCR.: Our thanks to Gene Lockhart for his performance as our star and to the National Safety Council and the American Academy of Pediatrics for their expert help in choosing situations which dramatize the problems of child safety.

And now, for a postscript to our play, it's our privilege to present Dr. George M. Wheatley, a vice-president of the Metropolitan Life Insurance company and chairman of the board of the accident prevention committee of the American Academy of Pediatrics. Dr. Wheatley—

DR. WHEATLEY: The doctors of America share with parents everywhere a deep satisfaction in the general level of health which has been reached and is being maintained among our forty million children.

At the same time, physicians know that even further progress toward health and safety for our children is their continuing professional responsibility. A child injured in an accident is a child with a health problem, and your doctor knows that this threat to the health of our children—these accidents which can cripple and cause illness and sometimes leave lasting scars—are often a more formidable

enemy than even disease itself. He wants to share with you, through his advice and counsel, the responsibility for your child's health and safety in a planned campaign which begins with protection for the infant and goes on to careful training for the toddler and maturing child. He wants you, as parents, to have the satisfaction of knowing that without inhibiting your child—without limiting his curiosity or discouraging his desire to learn—you are guarding him against the dangers he cannot foresee himself and wisely, patiently teaching him the habit of protecting himself. That, in short, is the message we have hoped to convey as Gene Lockhart has so vividly taken us through this series of dramatic situations in our play, "Accidentally Speaking."

ANNCR.: Thank you, Dr. Wheatley.

(Music: Theme—in and under.)

ANNCR.: Health Information Foundation which has brought you this program is supported by the drug, pharmaceutical and allied industries to keep you abreast of developments in every field of health. Did you hear scenes or incidents in our play which seem to apply to your own community? If so, and if you feel that you could use a copy of the script to spread the doctrine of health safety, through dramatic groups in your community, write to Health Information Foundation, Box 67, New York 17, New York. And watch your local papers for a new series of exciting and dramatic programs about the health of our children which will be heard over most of these same stations beginning Saturday, November 8th. Be sure to tune in to this new series, entitled "The Forty Million." "Accidentally Speaking" with Gene Lockhart, was written by Lou Hazam and has been produced by Wade Arnold and directed by John Keown.

This is NBC, the National Broadcasting Company.

ANNCR.: From Chicago . . . the Health Information Foundation, in conjunction with NBC, has presented this special program starring Gene Lockhart . . . and entitled—"Accidentally Speaking."

The script was written by Lou Hazam and produced by Wade Arnold . . . with direction by John Keown. Members of the cast were:

Music: up to tag.

Studies of Sudden Death in Infants

By DR. SIDNEY FARBER
Children's Medical Center, Boston

It is estimated that each year in the United States some 1,600 infants under the age of one year died of what is called "accidental mechanical suffocation." The majority of these occur between the second and fifth months of age. The story is usually that the infant had apparently been in good health before being found dead in the crib.

Since the author in 1934 called attention to the finding of fulminating bacteremia (overwhelming infection beginning in the lungs) in an infant said to have suffocated in bed clothes; and in 1938 to the many different natural causes of unexpected death in infants apparently found suffocated in bed clothes, a number of careful studies carried out by competent observers in this country, Canada, England, and Australia have brought important evidence to bear upon this question.

Particular reference is made to the studies of Jacob Werne of Queens County, John M. Adams now of Los Angeles, Alton Goldbloom and F. W. Wigglesworth of Montreal, K. M. Bowden and E. L. French of Melbourne Australia, and W. H. Davison of Great Britain. The opinions of all of these men working independently, may be summarized by the statement in the 1951 paper from Australia:

"... 'babies alleged to have suffocated accidentally in bed have probably died from undiscovered natural disease' ... 'the more thorough the autopsy the less likelihood the diagnosis of accidental mechanical suffocation' ... 'the information most frequently proffered first is that the child was quite well when last seen'.

"However, if the parents were interviewed some time later, when the emotional intensity of the experience had faded somewhat, it was often possible to elicit by careful questioning a history of preceding ill health in the child. ..."

The number of deaths attributed to accidental mechanical suffocation in this country has reached such size that it constitutes a major public health problem. For this reason, under the inspiration of Dr. Katherine M. Bain of the Children's Bureau, with the

interest and assistance of Mr. Ernest Allen of the United States Public Health Service, a study was undertaken in four cities to cover a period of three years, soon to be completed.

These are: Boston, Dr. Richard Ford; New York (Queens County) Dr. Jacob Werne; Cleveland, Dr. Alan Moritz and Dr. L. Adelson; Baltimore, Dr. Russell Fisher, working under the Chairmanship of the author.

These independent studies of all instances of unexpected death, including so-called accidental mechanical suffocation in the young, will be correlated under the leadership of Dr. Katherine Bain of the Children's Bureau, with the assistance of this Committee.

Each member of the group will describe his own conclusions from his own findings.

This report will not be available for another year so that no conclusions will be anticipated for this occasion.

Accidental Mechanical Suffocation

True, completely proved accidental mechanical suffocation in the infant found dead in bed, or in a crib, is an extremely rare finding. We have pointed out that this diagnosis has been in part an outgrowth of the accident termed "overlying." Such overlying, or suffocation from this cause has undoubtedly occurred when a mother, either a heavy sleeper, or on rare occasions when intoxicated, actually did overlay the baby sleeping in the same bed.

In rare instances a child's neck has been caught between the mattress and the spring, or within one of the loops of a bed spring with resultant suffocation.

Careful investigation by many observers has been made of the possibility of suffocation in sleeping garments. In the vast majority of instances other natural causes have been found. There are rare, undeniable instances, however, when complex sleeping garments containing a neck band made of heavy rubber, or a wire covered by heavy rubber have been employed with actual mechanical strangulation resulting from im-

perfect use of the garment. Such sleeping garments, where such mechanical imperfections are dangerous, are no longer sold.

Care must always be exercised when tucking an infant into its crib to see that no zipper, or neck band may constitute a hazard to the baby.

In the vast majority of cases where a suspicion has arisen concerning the role of the sleeping garment in mechanical suffocation, the disarray found was explained by convulsions secondary to increase in intracranial pressure, meningitis, pneumonia, or any one of a number of natural causes.

Does Mechanical Suffocation Occur as a Consequence of Placing the Infant On Its Abdomen?

This question has been examined carefully by numerous competent pediatricians, pathologists, and medical examiners. From their studies and from all observations that the speaker has been able to make during the past twenty-five years of interest in this question, the following conclusions appear permissible:

1. The infant lying on his abdomen is in a perfectly safe, normal, comfortable position.
2. No one has ever produced evidence based upon thorough post-mortem studies that such a position has been responsible in any way for death.
3. In all instances known to the author where careful and thorough post-mortem examination has been performed on an infant found dead on its' abdomen in its' crib or bed, an adequate or satisfactory explanation other than mechanical suffocation has been found.

Such explanations include overwhelming infection, unrecognizable diffuse interstitial

pneumonia, probably caused by filterable virus, early meningitis or encephalitis, congenital malformations of the upper or lower gastrointestinal tract leading to vomiting and aspiration of vomitus, congenital malformations of the heart, sudden hemorrhage into a tumor of the brain and many other natural causes of death.

There is no justification for the self-accusation, feeling of guilt and tremendous unhappiness of parents whose baby has been found dead in its crib, particularly after having been placed in its crib on its abdomen and face. Autobiographical sketches such as that by a father in a popular magazine a few years ago, entitled "I Killed My Baby" are based on a misunderstanding of the facts of the case and have no justification.

Conclusions

The possibility of mechanical accidental suffocation occurring in an infant or young child must always be borne in mind. Every safety device available should be employed in behalf of the infant or child too young to protect itself. Careful investigation of all mechanical "improvements" in cribs, in bed clothes, in sleeping garments should be carried out to avoid new mechanical hazards to the young. Without detracting at all from the importance of the foregoing statement, the evidence today from observers in many different institutions in several countries suggests that the diagnosis of accidental mechanical suffocation is made incorrectly in most instances because of inadequate studies.

Intensive research is required for the demonstration of methods of preventing the actual causes of death in such instances which appear in the main to fall into the field of overwhelming infection.

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Los Angeles Forges Ahead

By NATHALIE BUCKNALL

Safety Services Coordinator, Los Angeles Dept. of Health, Los Angeles, Calif.
(A Summary and Outline of the Talk Given by Mrs. Bucknall)

For six years Los Angeles has had a continuous program for Home Safety. Under our municipal health department, we now have sixteen projects in the Red Cross and the U. S. Public Health Service. We promote safety through the health department and accident prevention through the Red Cross.

In our field staff the public health nursing division is the most important to home safety. We have in-office training for nurses where we give basic indoctrination in the proper approach to teaching safety. The nurses get a thorough background that is necessary for the feeling of the importance of safety.

Through the first aid course of the American Red Cross, the field staff becomes safety conscious automatically. They learn to read newspapers with regard to home accidents. They learn how to approach both children and oldsters. They acquire a home safety approach to good housekeeping and good maintenance. The nurses develop programs in child health.

We coordinate our activities with the activities of the city school system of Los Angeles. The public health nurses have the job of presenting safety to the teachers in the public schools. We work on hot weather hazards in July and on the hazards of Christmas in the wintertime.

The Pediatrics section has a radio presentation that is dramatic and impressive.

The bureau of sanitation has a special survey and services on unvented heaters. We make inspections of these heaters. We have too many deaths from them.

Each of our health department divisions get the same program from our headquarters.

In our activities with 90 outside groups, we have worked on safety with the Los Angeles Committee on Opportunities and Needs of the Aged. We have worked on the problems of safety of the office worker.

One of our problems is that people in homes will not accept safety programs

where they have to admit having had accidents. The poor housekeeping that caused the accident embarrasses them.

In order to sell safety, it should be taken out of the Health Education Division. Safety should be directly under the medical bureau or under the health officer. This will make available research materials which can be brought to the section of public information which can give out this information in educational programs. Safety has to be taken out of public health research. It must go out into the field.

City officers must sell this idea to their city managers or city councils.

Safety must be sold in exactly the same manner that any difficult commodities can be sold. We have found that it takes time to sell some good points. But if you use TV, with an attractive presentation, you can sell anything. We are also using bill boards. For the general public we should not try to sell a program of women's activities. We should call the program, "The Family Program."

The Divisional, Health Districts', and Coordinator's activities as outlined below are now in progress in Los Angeles. Some projects which were started at the inception of the program in 1946 but which had to be dropped due to changes in planning or lack of time are not listed.

Activities of Divisions

1. Nursing:

- a. In-office training of Public Health Nurses.
- b. Safety suggestions on home visits.
- c. Accident recording on visits.
- d. Well-Baby clinics program.

2. Sanitation:

- a. Surveys and corrections of "attractive nuisances."
- b. Preventive consultations with individuals.

3. Mosquito Control—fish pond and pool safety practices.

4. Housing Survey—unvented heaters and other maintenance problems.
5. Public Health Information—publicity for projects.

Activities of Health Districts

1. Safety Indoctrination in Clinics.
2. Projects in Private Schools:
 - a. Baby-sitters' course.
 - b. Poster designing in classes.
 - c. Class safety committee.
 - d. School hazard surveys.
3. Special Programs:
 - a. Summer safety.
 - b. Christmas safety.
 - c. Others (accidental poisonings, dog bites, etc.).

Coordinator's Activities—Departmental

1. Programming of all divisional and district projects.
 - a. Outlines and patterns.
 - b. Staff conferences.
 - c. Staff and public talks upon request.
 - d. Preparation of monthly data for distribution.
 - e. Exhibit planning.
 - f. Public Information Suggestions.
2. In-Office Safety Training for Public Health Nurses.
3. Monthly Column on Babies' and Childrens' Safety—"Stork News" publication).
4. Weekly Radio Programs (unrehearsed home safety interviews), now in its 4th year. It won for the station the National Safety Council's Public Interest Award for 1950 and 1951.
5. Special Radio and TV Appearance.
6. Individual Consultation (Staff and Public) on Safety Problems.
7. Elimination of Health Building's Hazards.
 - a. Safety strips on steps.
 - b. Boarding up of windows, etc.
8. On-and-Off-the-Job Safety Program for Employees.
9. Other Departmental Projects as Need Arises.

Coordinator's Activities—Outside Groups

1. National Safety Council and American Red Cross—Close coordination with their programs.
2. The Department's Annual Safety Breakfast (July). In its 5th year. Participated in by all city government departments and outside agencies as a city-wide expression of support for program.
3. Los Angeles City Schools—
 - a. Serving on their Curriculum Committee (Safety Section).
 - b. Lecturing on home safety principles as applicable in driver-education courses.
 - c. Monthly statistical information.
 - d. Research on special problems.
4. Federation of Community Coordinating Councils—While serving as a charter member on the Advisory Safety Committee, developed the following:
 - a. Guide for community safety organization with charts.
 - b. Guide for safety chairmen.
 - c. Workshop patterns.
 - d. County-wide organizational talks to the Federation's Councils.
 - e. Statistical and other information as required.
5. Los Angeles County Committee on Opportunities and Needs of the Aged—
 - a. Serving as a member of its Safety Section.
 - b. Special research on accident statistics.
 - c. Other safety problems in geriatrics.
6. Governmental Agencies Section (Los Angeles Chapter) of the Governor's Industrial Safety Conference—Participating as a member in the development of:
 - a. Organizational patterns.
 - b. Uniform accident reporting.
 - c. Off-the-job safety programs for industrial workers.
 - d. Special research on safety problems of office workers.
7. U. S. Public Health Service—Serving as a consultant on home safety approaches.

8. Southern California Industrial Safety Society and American Society of Safety Engineers—Participating in the promotion of employees' off-the-job safety.
9. PTA, Women's Groups, Service Organizations, Etc.—
 - a. Assisting in development of their safety programs.
 - b. Supplying monthly statistical and other information.
10. Various Health Departments in USA, as well as Municipal and Regional Health Departments in Canada and Australia—Serving upon request as consultant on home safety programming.
11. Participating as speaker or panel member in various conferences.

Age, Fitness, Experience and Safety

By DR. BARRY G. KING

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This report is concerned with a discussion of a basic approach to the study of the causes and the methods of prevention of accidents and some preliminary information on forces which will throw man off balance.

There are a number of reasons why the Civil Aeronautics Administration should have an interest in these investigations. We are intimately concerned with accident dynamics and with the human factors in accidents.

Further, we have specific interest in factors contributing to disorientation of body posture. This includes the problem of falls which is so important in home safety.

In aviation safety it encompasses a considerably broader field. Since a stable platform of operation is essential for safety, we must define this stable platform for pilots, aircrewmembers and passengers.

We are concerned with flight emergencies such as turbulence in flight and rapid deceleration in crash landings and water ditching.

We are also concerned with emergency evacuation of aircraft following landings where passengers must descend rapidly from the cabin to the ground. In this situation falls and injury to one passenger may jeopardize the safety of remaining passengers.

Let us first consider a general method of approach to research studies on accidents.

Accidents result from the interaction of three principal components—*man*, *stress* and the *environment*. The extent to which each

of the three factors contribute may vary greatly. In combination, the critical value is reached.

The score which describes the man's limitations, and his capabilities, determines the extent of his contribution to the accident; the contribution of the stress is determined by its energy; the favorable and unfavorable aspects of the conditions under which man operates at the time represent the contribution of the environment.

Extreme limits of the value for the stress can be measured in terms of exposure, that is, the energy or strength of the stress and the time during which it acts.

At some point there will be a value for exposure which cannot be tolerated by any man.

When this limiting value is reached an accident will result regardless of the values of the other components of the equation.

We can apply this knowledge for the prevention of accidents either by controlling or limiting the exposure to which man can be subjected, or by providing special protective equipment.

For example, an electrical current of about one quarter of an ampere acting for three seconds or less will result in death when the heart is included in the pathway of the current through the body. Wherever such exposures are likely, we can institute protective measures such as insulation, use of rubber gloves or grounding.

At the other end of the range there is some value for exposure which can be tol-

erated without harm by all men. Knowledge of this value, which in our example would be something less than ten milliamperes, serves as a basis for determining the degree of protection required to provide complete safety.

As a separate study, we may investigate the range of the environmental conditions under which man can exercise his capabilities. For example, he can see and avoid obstacles within a certain range of illumination. Where safety depends upon vision, accidents will result if these limits are exceeded.

The role of the man is certainly the most difficult problem in solution of the accident equation. We know that within a range of values for stress, and for environment, an accident may, or may not, occur depending upon man's contribution to the interaction. Further, we know that the human capabilities and limitations, which for the sake of simplicity in our initial approach we have considered as a single component, represent a highly complex factor made up of a multitude of physiological, psychological and sociological sub-components. We will find it advantageous to set up a second equation to solve for the value of the human factor. There again we start with broad general categories of components which must be broken down and studied as separate experimental variables.

Whether or not an accident results from a potentially stressful situation is determined by:

1. Man's ability to perceive the situation. This in turn will depend upon the strength of stimulus (i.e., the warning) and the threshold of perception.
2. His ability to organize and interpret the incoming sensory data, and determine and initiate appropriate action.
3. The effectiveness of his motor activity in avoiding the stress he has recognized. This depends upon the strength, speed and co-ordination of muscular movement.
4. The ability to sustain stress, if escape is not effective.

If the accident is to be prevented, sense organs must function adequately to register and signal the visual, auditory, olfactory warning of the stress at a distance, or the tactile, thermal or pain sensation which

arise as the separation from the stress is reduced.

The stimuli must reach the receptor at a sufficient intensity level for excitation of the sense organ.

The organization of the information must be sufficiently rapid. The speed and strength of the effector action must result in avoiding all or some portion of the stress.

The fourth quality becomes important if the sensory, interpretive and effector responses are insufficient to prevent exposure to the stress. Man's tolerance to the stress will determine the possibility of further action for avoiding injury or for self-preservation, and the final effect of the stress on man, whether the exposure is ended through escape, or termination of the action of the agent.

There are marked differences in the extent to which these capabilities are developed in the extremes of the age groups i.e. in the very young and in those of sixty-five years and over. Accident rates are high in these two groups. Intensive study of the young and the old, afford a promising approach to the study of man's contribution in determining an accident.

The extremes of age exhibit somewhat comparable qualities insofar as sensory and motor abilities are concerned. They are both at a physical disadvantage in effector action, one, because the speed and strength of action has not yet developed, the other because these have been reduced by deterioration. Both are further handicapped by their receptor function.

Those in the older age group, because of receptor changes, are not only less likely to be subject to the warning stimulus, but in addition may react only to a more intense stimulus.

Those in the younger age group range, after a certain age, have sensitive, effective receptors.

The major difference between the two groups is, however, the experience—the ability and perhaps the judgment—to use previously acquired sense data to anticipate future data and to plan action ahead.

Insofar as tolerance to stress is concerned—both groups are less resistant to most stresses than intermediate age groups. Accidents are the fifth cause of death in infants and in the older age group.

Let us consider the factors of abilities and of tolerance to injury in relation to falls. Falls result from the inability to cope with gravitational or other forces. They may occur during standing when a subject is being acted upon by gravity; if a man is moving, he is subject to a succession of resultants of more or less horizontal accelerations and decelerations and of gravity. The "agent" which may cause the stress to be increased to a critical level may be a loose board or a hard, slippery surface.

If the accident is to be avoided in the simplest case, that of standing, the sensory nerve endings in the muscles,¹ joints and skin, and those in the inner ear and the eye must react so that the combined response supplies at least adequate sensation for a man to determine the position of his body in relation to space. The sensory impulses must be interpreted, and appropriate action in terms of muscular contractions must be carried out. Let us consider these factors in greater detail.

- I. Factors influencing a fall in the older age group would be:
 - a. Deterioration in the sensory receptor organs. The stimulus must be greater in terms of intensity and duration of application to excite sensation.
 - b. It may be assumed, however, that since man is thoroughly used to receiving this type of information, he will have no difficulty in integrating and interpreting it if sense organs pass along the nerve impulses to the brain.
 - c. The process of sensory-motor integration and integration of motor or effector action may be expected to be adversely influenced by age. The more extreme example might be the deterioration in the Purkinji cells in the cerebellum.
 - d. The effectiveness of the motor response, once integrated, will be determined by the speed and strength of the muscular action. Standing involves only a very small amount of work. The situation is comparable to balancing a very heavy bar with one end resting on the ground. The muscle need only fix the joints, not support the body weight. It is necessary, however, that the joints be fixed. This will usually present no

problem unless some circulatory disturbance, e.g., syncope, interferes with the continuous barrage of impulses from the central nervous system to the muscles. Such an event would, of course, affect consciousness and mechanisms described in c.

- e. Experience, especially in a familiar situation, may result in appropriate action reducing the likelihood of a fall.

For example, sensations from the feet and limbs might not be sufficient to provide information on body posture. An elderly man may turn on a light if he anticipates standing so additional information about posture can be received through the eyes. He may reduce the continuous adjustment of the muscles across the joints by moving his feet further apart, and increasing his base of support.

- II. If the end result of the factors mentioned in I. is that the man falls, whether or not it results in an accident depends upon his tolerance to mechanical impact—upon the strength or frailty of his bones and tissues.

Preliminary Report of Experimental Findings

Mr. John Swearingen, of the CAA Civil Aviation Medical Research Laboratories, has carried out preliminary studies on the effectiveness of motor response in maintaining balance when healthy men in the younger and middle age groups are exposed to suddenly applied forces resulting from an air blast. This is, in effect, a measure of man's tolerance to disorienting forces.

Swearingen measured the forces acting on the human body during equalization of pressure differences following puncture of a plastic membrane separating a partially evacuated low pressure chamber and a "collar" or "wind tunnel" which was at sea level pressure.

The air blasts were of short duration, i.e. about one tenth second; pressure differences up to six and one-half pounds per square inch were used; the air velocities in the tunnel reached around 125 miles per hour during the brief period of equalization of the pressures.

Human subjects assumed upright or other positions in the rectangular "wind tunnel" with the body oriented in various directions in relation to the wind.

A number of body positions were tested to measure the forces which would act upon the body when rigidly supported on specially designed stands or during equalization of various pressure differences. After establishing these values for a single subject a series of trials were made in which the subject assumed the same positions without support; he was secured only by a safety belt and cable to limit his body movement and minimize the danger of body injury.

Pressure differences were increased in successive trials until the subject was unable to maintain his balance or to recover. Under these conditions where the force acts over the whole area of the body presented to the blast, a force of fifty-nine pounds was sufficient to disturb the balance of the body, (balance could be recovered) and one hundred twenty-five pounds disoriented the subject beyond recovery where he stood face to blast. Disorienting forces were somewhat higher when standing back to blast

(sixty-nine pounds and one hundred seventy pounds). Disorienting forces acting with the subject in a seated position ranged from sixty-three to seventy-one pounds (recovery possible) to seventy-five to ninety-one pounds which disturbed posture beyond recovery. Other tests were made while the subject was walking at various stages of movement and foot and leg positions; it was found that air blast forces of approximately seventy-five pounds would cause the subject to fall.

We believe that accumulation of data on the effects of both short blasts and "steady state" or longer blast measurements will enable us to define the tolerance of normal, healthy men in intermediate age groups to disorienting forces. Since tolerances of the younger and older groups are not likely to be greater these data will have application in reducing accidental falls in domestic and industrial situations as well as serving the needs of aviation safety. We hope that comparable studies of men of all age groups will be undertaken by other investigators using other experimental methods to test and to expand our findings.

A Home for the Handicapped— An Example of Human Engineering

By DR. EDITH LIND KRISTELLER

Dir., Disabled Homemakers Research Project, Institute of Physical Medicine and Rehabilitation, Bellevue Medical Center of New York University, New York City

It has been estimated that about twelve per cent of our population is disabled either by handicap or chronic disease. Approximately half of this number, 10,000,000, are women. There are 4,500,000 women with cardiovascular disease, 1,875,000 with arthritis, 800,000 with orthopedic impairments.

This number is increased by 30,000 every year through home accidents alone. There are 650,000 women with hemiplegia following a stroke and there are still 175,000 women with tuberculosis. The rest is made up of various diseases and disabilities including poliomyelitis.

In addition there are 15,500,000 homemakers over forty-five years of age, who are not disabled now, but have to conserve

their energy progressively with advancing years.

All of these women would not be able to fulfill their duties were it not for the application of the principles of human engineering. By this we mean the efficient use of human energy on the one hand and the adaptation of the tools and workplaces to the needs of the worker on the other hand.

The Disabled Homemakers Research Project has been established with the aid of a number of the nation's public utility companies to study the problems involved.

At the New York University Bellevue Medical Center we have two kitchens which form the center of our activities. One has



been built with the help of the New York Heart Association. It is in New York's largest municipal hospital, Bellevue, and contains no other equipment than what you would expect in almost any urban and many rural homes.

It has been arranged for greatest efficiency of work in very small quarters. Classes can be given here to cardiac patients and to women with tuberculosis, and orthopedically disabled housewives. This can be given to a group of five or six, or individually. The latter method is preferred when actual work in the kitchen or individual counselling is necessary.

The other kitchen is situated in the Institute of Physical Medicine and Rehabilitation, which is a private institution. This kitchen is more especially geared to the needs of the patient in a wheelchair or the one with braces and crutches. More equipment is available for the purpose of experimentation.

The patient in a wheelchair cannot reach up very far nor can she get to the very low shelves.

The patient on crutches and with braces cannot bend. She often has to lean on her crutches for support and for balance and therefore does not have her hands free for work. Frequent changes from the standing to the sitting position and vice versa are often cumbersome.

A large kitchen, requiring many steps, is too energy consuming. But it must be large enough for the wheelchair patient, so that the wheelchair can be easily maneuvered in it.

These considerations together with those usual ones of time and motion saving were taken into account when the kitchen in the Institute was established. It is not finished yet by any means, but a beginning has been made. We hope to be able to install soon all the equipment that we demonstrated at the convention of the American Medical Association in Chicago this year.

The range as well as the sink and the work counter are only thirty-two inches high as compared with the usual height of thirty-six. The reason for these lower working surfaces is that they enable the woman in the wheelchair to work at a fairly comfortable height.

The toe-bases here are eight inches high,

so that the front wheel of a wheelchair, which often has a diameter of six inches can easily get underneath enabling the patient to get as close as possible to her work area.

The range and the sink are placed close together so that the patient can slide a heavy pot from the sink to the range and vice versa. This is also facilitated by the arrangement of the burners in this particular sectional range, where every burner can be reached from the front without the need of lifting one pot over another one, thus requiring only a very small amount of arm muscle strength of the patient.

The oven is placed at a height easily accessible from the wheelchair and for the patient who has braces, since it eliminates bending.

The sink is easily accessible. The wheelchair can wheel right under it, since it has a clearance of thirty inches, so that it does not interfere with the arm rests.

All the utensils needed at the sink are stored in small cabinets.

Foodstuffs that are prepared at the sink, such as vegetables are stored close-by in these vegetable bins.

The pots and pans needed near the sink or the stove are to be found in sectional files above which can be reached from the chair. These eliminate the need for opening of doors and searching for the needed utensils and for precariously balancing stacked pots and dishes, an act which would often be impossible for our patient. A "lazy susan" arrangement of shelves brings everything into easy reach. So do pull-out drawers which were used in other areas.

Special equipment is not essential and much can be done in the average home even with small means, as long as inventiveness and good will are abundant.

A patient lived in a city housing project where usually little can be changed. But here the center panel and the baseboard were removed allowing her to wheel under the sink where she can work with good back and arm support.

The range was lowered to arm-rest height by taking it off its base and placing it on a sheet of asbestos for reasons of safety. These were not the only changes that were made in this particular kitchen.

The shelves of the work-counter were stationary, but with very little money her husband made pull-out drawers for her. A simple drop shelf provided a suitable work area for her.

Another patient solved the problem of an adequate work place by using a low tray on her wheelchair. This made it possible for her to use the work surfaces of ordinary height as "parking space" but to do the mixing and stirring and many other types of work at the height of her lap, thereby avoiding much fatigue. This table also served as a means of transportation for goods and utensils.

Other changes were made for a patient who had poliomyelitis and who had weaknesses in her arm, neck and leg muscles. However she was able to move about most of the time and used the wheelchair only occasionally.

Our patient's kitchen reveals her dishes and commonly used foods all within easy reach. The shelf serves as an eating center for the family and as a work place. These shelves were tailored both to the limitations of our patient's reach and to the supplies that were to be kept on them. The top shelf is the upper limit of her reach when handling light objects. The bottom shelf is as low as she can reach comfortably.

Her gas range is typical of those in apartment kitchens. The broiler is beneath the oven and the unit must be lighted from the broiler compartment. This was too low for the patient to reach. The gas company was able to supply a new floor for the oven with a lighting tube accessible from the oven. An infra-red broiler substitutes for the low range broiler, conveniently located on the range top.

Although the kitchen is often considered the "Heart of the Home" the other parts of the home must not be neglected if we want to spare our patient as many frustrations as possible. Again small changes may spell the difference between dependence and independence.

Door sills and loose carpets should be removed, not only because they make the wheeling of the wheelchair very hard, but to prevent the patient with braces and crutches from catching her foot in unnoticed elevations in the floor, or from slipping on a movable surface.

For greater safety for the patient, the floor should not be highly polished.

The furniture should be arranged in such a way that it does not obstruct the way of the wheelchair and that it eliminates the need for unnecessary steps.

The bedroom is planned to enable the patient to dress with the fewest possible motions. The closet she is to use is nearest the side of the bed in which she sleeps, with the dresser in the same area. An extension of the phone is on the bedside table for emergency use. Since she is unable to push herself from the normal sitting height her bed was raised on blocks to a position where she could stand up by herself.

Many difficulties are encountered in the bathroom. Let us begin with the doors. They are often not wider than twenty-seven inches and the patient's wheelchair is ordinarily just as wide. Sometimes nothing can be done but to remove the door and to replace it with a curtain, an "improvement" to which many objections are raised for understandable reasons.

In one instance it was possible to widen the door frame and to replace the narrow door with a wider standard sized one.

The height of the toilet seat may need adjustments for patients with leg and trunk weaknesses and for those with arthritis.

Hand rests are placed in a good position for the patient to push up on. Such aids are frequently necessary, otherwise our patients would use the washbasin which has not been designed to take much weight. In some instances it has been possible to put hand rails on the wall to give the patient a place to hold on to. On the other hand reinforced wall attachments are available for the washbasins, which make it possible for the patient to use the basin as support. Neither side-legs nor pedestal make it easy for the patient to wheel under the basin.

The bath tub always presents a problem and not only for the handicapped. In one survey, 3.5 per cent of all fatal home accidents occurred in the bathroom, most of them due to falls. We may surmise that a goodly number of them were due to slipping in the bathtub.

There are several methods by which the disabled person can manage to get into the bathtub safely, if he has good arm power and a rail at the wall. If a rail is not avail-

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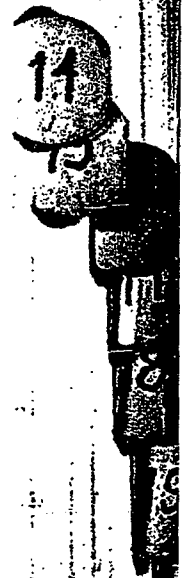
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able, he can use a bench. Other patients transfer from their chair to a chair in the bathtub.

An elaborate system of overhead pulleys was designed in Sweden, with several other interesting features such as door sills which give under the pressure of the wheelchair, and hand rails which are different from the ones used in this country.

However, it can be said in general that we prefer our patients to use showers.

For the wheelchair patient and for many that walk with difficulty the ranch type house is preferable to one with several stories. Outside ramps are necessary for the patient in the wheel chair and are often also easier for the braced patient, especially when the stairs do not have a side rail.

I know of one community in the South where a ramp was built to the movie house and to the church in order to enable one handicapped boy to get his diversion and edification.

I was told in Sweden, this summer, that they are also planning to provide some movie houses and theaters with such ramps for the handicapped.

We may not want to go so far as to demand that all communities should thus adjust their lives to the needs of the handicapped, but these examples point out very well that the handicapped is really the concern of the entire community. Not only the doctors, but also the public health nurse, the welfare worker, the next door neighbor may assist with a little but very necessary aid of the mason who puts up a suitable house, the plumber and the carpenter who put in the

finishing touches, the home economics teacher who may point out methods of energy saving, to mention only a few.

In some places the utility companies have been helpful, not only by adjusting gas or electrical equipment, but also by extending their courses of instruction to fill the needs of the disabled homemaker. In other places such special courses of instruction are planned for the near future.

In still other communities organizations such as the American Heart Association, the National Tuberculosis Association or other civic groups have organized centers of instruction and help for the disabled homemaker. They all recognized that it is not only a humanitarian duty to help these people but that it is also in the interest of the community itself to do so.

Every disabled homemaker who can again take care of herself, and of others in her household, will contribute to the welfare not only of her immediate family but also of society at large. For every person that becomes independent of the help of others, another person becomes free to pursue a gainful occupation without restraint.

Knowing that his wife is content and can take care of the home the husband can work under less tension. His work output may then increase and his work habits will become safer since he can pay more attention to his work and he becomes less fatigued. Also his children will be more content with their mother assuming her rightful place again and they will tend less to get into mischief. Thus, instead of being a liability to the community such a family will become an asset.

Problems That Challenge Home Safety Today

By DR. LILLIAN M. GILBRETH

Consulting Eng., Montclair, N. J.

(A Summary of the Remarks Made by Dr. Gilbreth)

What we need now in the safety field is coordination. To solve some of our problems we must coordinate some specific situations in industry and the home, in traffic and the pedestrian. We suffer from a conflict of authority where we have the specific problems of the driver and the pedestrian.

We must utilize all avenues to break down artificial barriers between the office and the home and other areas of activity. A man must be able to bring outside safety training into his home. The Boy Scout can bring home some lists of good equipment.

Home problems are important to industry. During the war years it was noted that people who came to work in a state of fatigue were a hazard to safety at work.

The home is the ideal place to begin this coordination. All ages and conditions of people are found in the home. Even overcrowded hospitals are sending patients home sooner that they once did. Homes should turn out safety minded people who practice

safety almost subconsciously. Children should be taught safety at the same time that they are taught courtesy and manners. Such teaching will make their lives more pleasant and make them more acceptable to others. This will give us groups of people who are getting more joy out of living.

Maintenance is the important thing in home safety, as it is in every other area. The least deviation from normal should be noted and corrected to keep the home safe. This is a challenge and a responsibility to the home maker.

Industry can manufacture more home equipment which will eliminate hazards for the user.

In the cooperation of industry and the home, The National Safety Council is a most important agency. The National Safety Council can influence more progressive industries to put safety into home equipment and into the home.

Looking at Your Case from My Point of View

(Panel Discussion)

Discussion Leader: ALFRED W. CANTWELL

Participants:

IRENE L. MUNTZ, Home Service Dir., Rochester Gas and Electric Corp., Rochester, N. Y., Home Safety Chairman, American Home Economics Assn.

JAMES T. LENDRUM, Dir., Small Homes Council, University of Illinois, Urbana, Ill.

MADELINE PERSHING, Nurse Officer, Home Accident Prevention Unit, U. S. Public Health Service, Washington, D. C.

E. M. GEARHART, JR., Director-Secy., Kalamazoo Safety Council, Kalamazoo, Mich.

The panel discussed ways and means of coordination of the services and persons who can bring safety into the home.

While the education in safe homemaking has made considerable progress with the

disabled homemaker, little has been done in educating the very young and inexperienced one. Knowledge gained in the solutions of the problems of the disabled homemaker can often be used in solving the problems of the average one.

Handholds which are used by disabled persons to elevate and lower themselves into various positions, are often placed in a horizontal line. It has been found that the support that these handholds give the person should be above the center of the gravity of the body. They should be in two positions since the bodily action is that of moving up and forward. This principle should be applied to all handholds in bathrooms and other locations where they are needed.

Some improvements in household equipment often meet with resistance from the average homemaker even though they have

been found to be more safe in the kitchens of the disabled person. For example, sliding doors were not accepted by a number of homemakers when they were presented by architects in an experimental house. The homemaker cannot bump into a sliding door. The swing door can cause injuries. But the rejection of the sliding door by many homemakers might be due to sliding doors that stick. Another objection might be that a part of the shelf contents is always hidden with a sliding door.

In Sweden doors lifted by pulleys are used but it was thought that they might be too expensive for general installation here.

Many real improvements for home safety will have to be sold to the homemaker. Magazines are doing a good job of selling the homemaker new and improved designs in equipment because their kitchens and other rooms in the house are displayed so attractively. Attractive presentation in magazine, television, and other ways will do much to make the home a safer place.

The design of the house is important to safety. It was found that the ranch house arrangement and plan cuts the homemaker's work time in half.

Safety in the home is now attracting the interest of industry, the school, and the community at large. Fatigue, caused by home conditions, can be destructive to the welfare of the man on the job. Off the job accidents cut into production and costs.

There are many ways and many persons who can now be used to bring safety from industry, the school, and community into the home. Of these ways and persons, the public health nurse today is the most important. She has been educated in the best approaches to all family members, from the youngest child to the aged, or the disabled. She has access to a great variety of useful knowledge and materials. She can apply helpful aid and teach others how to apply it.

The father of the family can bring home attitudes of safe living and practices which he has learned at work. The school child and the Boy Scout can do the same. The community at large can carry on programs for safe living in traffic, recreation, and all community activities.

But safety in the home will be increased most by the coordination of all of these persons and agencies.

The Nurse's Part in Home Accident Prevention

By MADELINE PERSHING

Nurse Officer, Div. of Sanitation, U. S. Public Health Service, Washington, D. C.

The nurse can effectively aid in the solution of the home accident problem, because she understands the causes of home accidents—both those which are defects of environment and those which are defects of behavior. She knows that accidents don't just happen—they are *caused*, and that almost every kind of accident can be prevented.

There is no other group of persons whose work is so widespread geographically and among all social and economic groups. There is, to my knowledge, no person who goes so regularly into so many different homes and who is thus enabled both to observe conditions or situations having an accident potential, and also to guide the members of the household in the application of safe practices.

The nurse can observe the homes she visits for deficiencies or for lack of an

awareness of the type of environment that predisposes to accidents. She can note what allowances are made for the old and the young in the home. She can suggest economical, simple, and practical aids and techniques for better and safer homemaking. She can note an increase in accidents to a family member. Accident susceptibility occurring in a person with a history comparatively free of accidents often indicates a significant change in physical or emotional well being.

Those of us who are most familiar with the work of public health nurses realize that they have a crowded program; but because of their interest in any and all situations affecting the health of people, they are ever ready to accept new challenges and new responsibilities.

Fortunately, accident prevention can best

be accomplished when integrated into existing public health nursing programs and activities. This is being done by many public health nurses today. There is a need, however, for more emphasis and perhaps a more direct approach to the problem, by nurses.

It is true, "accidents can happen to anyone." Nevertheless, mortality and morbidity statistics show that two groups of people are particularly susceptible to accidental injury.

It is with children in particular that the nurse can accomplish the most in accident prevention, especially with the child under five years of age. Well over one-half of the accidents that occur to children in the run-about period, 1 to 5 years of age, happen in the home; yet it is here that the least progress has been made toward reducing children's accidents. Safety education is an appropriate part of the home supervision of the pre-school child, and it should be intensified at the run-about period, chiefly through education of the parents.

Dr. Harry Dietrich, Associate Professor of Pediatrics, University of California, has pointed out many things worthy of consideration by nurses who are cognizant of their responsibility in child accident prevention. Dr. Dietrich bases his recommendations on the assumption that safe conduct is a form of behavior and, as such, can be shaped and developed. He applies a theory of accident prevention which embraces reciprocal relationships between protection and education. Briefly interpreted, accident prevention in childhood begins with 100 per cent protection. It is during the period when parents are anticipating the birth of the child and during his early months of life that the nurse, through her association with the parents in the home, in prenatal or mothers' classes, or in fathers' classes, in the clinic or physician's office can highlight the most important protective measures necessary to insure an accident-free babyhood. Young infants under one year of age are not adroit at dodging and thus are likely to suffer painful injuries, or even death, unless those responsible for their care supply constant and adequate protection.

As the non-ambulatory period of babyhood changes to the "toddler" period, protection becomes more difficult to apply, and education of the child becomes necessary.

As the nurse continues her contacts with the parents, she can offer guidance in gradu-

ally lessening protection and rapidly increasing education in safety. In general, the educational practices must be tuned to the developmental level of the child. We know that the youngster just beginning to walk is embarking on an orgy of exploration. He lacks knowledge of gravity, height, temperature, and speed. Realization of his lack of knowledge and anticipation of his behavior should indicate where protection is needed and education should be applied.

The nurse can do much to detect hazards which may cause injury to the aged person. Special attention should be directed to preventing falls in this group. Falls cause more deaths among older persons than any other kind of home accidents. More than 85 per cent of fatal falls occur to persons 65 years of age and older. The nurse, whether in the physician's office, in the hospital, or in the home, should discuss with the older patient the importance of developing habits of safety. The older person should be guided to a changed attitude toward his work program, to willingness to accept assistance, to setting lower goals for amount and speed of accomplishment, and to recognizing, reporting, and accepting correction of such physical defects as impaired vision and hearing. He should recognize the need for greater caution on stairs or uneven terrain. He should learn to take shorter and more secure steps, to refrain from lifting or moving heavy objects, and most of all to refrain from climbing on chairs, boxes, or even ladders.

Because many older persons have not had the opportunity to receive the benefits of effective safety education during the earlier periods of their lives, and because of physical limitations coincident with old age, it is all the more imperative that as safe an environment as possible be provided for them.

The nurse, whenever she has access to a home, may guide the household in changes necessary to fulfill such a need. Handrails on all stairs, a bedroom on the first floor, beds of sitting height, and securely fastened rugs or carpets are only a few of the items that should be included in such an inventory. Many of these corrections are long overdue in many homes, yet most of them will benefit not only the older person, but all other members of the household.

We know a great deal about accident potentials today. However, there is a de-

cided need for additional data concerning the causes and the means of preventing home accidents. The nurse, because of her close relationship to the homes and people of the community, can contribute much of the information needed, as she has already done in other health problems, through epidemiological investigation.

The objectives of an epidemiological analysis of home accidents are simple: First, to find out when and where these events take place; secondly, how they occur; and finally, who gets hurt. No organized effort to analyze home accidents, as a community health problem on a national scale, has as yet been made. Reasonably reliable data on the total number of home accident deaths are available for the country as a whole and for many cities and states. Much of the information on the death certificate is designed to give some indication as to the type of the accident and the manner in which it occurred.

No such reliable or extensive figures or data are available on the non-fatal home accidents. The limited number of studies on these home accidents leads us to believe that many of the home accidents causing temporary disability result from a different group of circumstances than those causing death. Such information can be secured through a variety of people in a variety of places routinely reporting, with adequate clarity and completeness, the home accidents known to them. This data will enable each community to apply the findings compiled locally and allow for a focal attack where the condition is most pronounced.

School and industrial nurses have a great concern for the safety of the individuals, who are the recipients of her service. Extensive safety activities are in progress for these individuals when they are under the jurisdiction of the school or plant. The nurse, because of her responsibilities and the nature of her duties, can guide each indi-

vidual in adapting in his own home environment the safety measures developed for his benefit, by the school or work authorities.

In conference with the pupil or worker presenting himself for first aid or follow-up treatment of an injury, she should discuss the prevention of similar and possibly more serious accidents. This may also mean a conference with the parents, the teacher, the school or industrial psychologist, the safety engineer, or the plant foreman.

The school nurse should note the habits of teachers in the housekeeping and organization of the classroom procedures, and also the effect of the teacher's personality on her students. By direct or subtle approaches, the school nurse can help the teacher to acquire classroom habits that are conducive to safety.

The school nurse, in many school systems, either is a teacher, helps to plan curriculum content as it relates to health, or gives counsel on the integration of health and safety into the daily lessons. Opportunity for accident-prevention promotion is unlimited when the nurse functions in this manner.

The industrial nurse serves in many plants on committees to improve the health or working situations of the employee. She can use such opportunities for correlating the safety education of the employee with his off-the-job activities and interests.

The key position accorded the nurse in each community has enabled her to act as a liaison person between the home and health and safety interests. She brings to the family the message and work of the physician, engineer, or laboratory analyst, and she helps to interpret the family's reactions and safety needs to them.

The nurse realizes that accident prevention is a vital, important factor in all her activities to be woven into her total nursing responsibilities, whether in the home, the hospital, the school, the plant or community activities.

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