

PROTECTING THE HEALTH OF THE YOUNG WORKER

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We are gathered here because we are interested in the health and welfare of the citizens of our respective countries, limiting our point of attack to the health and welfare problems of the Border towns. This section is confining itself to these problems as they relate to children. A group such as this met in 1945 and 1946 and expressed much interest in these matters. It was, therefore, a great satisfaction to learn that when the conference resolutions were adopted last year, No. 13 read as follows: "That a Section on Maternal and Child Health be created as one of the sections of the United States-Mexico Border Health Association." So the Maternal and Child Health Section is today making its debut. This, as you know, is part of that Section.

I shall confine my remarks to the health problems of the young worker. I would like to discuss briefly the following points: The effect on children of (1) working at too young an age, (2) working at a job or place of employment which is hazardous or injurious to health, (3) working for excessive hours or at night and, finally, (4) of requiring a physical examination as a condition for securing an employment certificate.

Child labor laws are needed to prevent work of children at unsuitable ages, under undesirable conditions, for excessive hours or at night, at tasks too heavy for their strength or at jobs that may result in injury, or at jobs that may retard their physical development or be injurious to their health.

When we see a lively teen-age youngster assembling parts in a factory or harvesting crops in the field, the job may appear no more taxing upon him than upon the mature worker beside him. Actually, the adolescent is carrying a heavier load than the adult. Boys and girls in their middle teens are growing rapidly. They are undergoing many physical and emotional changes. The rapid growth, in fact, the whole maturing process, throws an added strain upon the young worker. And because he is still growing, he is especially susceptible to unfavorable health conditions that may even alter the course of his physical development. Thus everything that interferes with his normal growth—over-fatigue, improper or insufficient food, inadequate rest, or lack of fresh air, sunshine, and exercise—may have a lasting effect upon him.

Except in their own eyes, boys and girls of 14 and 15 are still children. At this age they are immature, insecure, uncertain of themselves, and somewhat uncoordinated mentally and physically. We now have better concepts of what we want for working children than we had back in the early days when laws enacted in their interest merely required that they

receive a total of three months of education in a year. Now, in addition to an adequate education to insure children a vocational future and social development, we wish for them opportunity for growing physically and mentally to their fullest capacity. To this end we should protect them from premature and harmful employment. Children under 16 should not be expected to assume adult responsibilities as full-time wage earners. They need plenty of sleep and time for wholesome recreation, and school should be their chief responsibility.

The school, where the child receives his education, is operated solely for the welfare of the child. Industry, where the child gets his work experience, is operated primarily for profit and not for the welfare of the child. Industry cannot be expected to select the child for the job or the job for the child on the basis of individual development. Nor can it control working conditions on this basis, or follow the development of the child on the job except from the point of view of production. When a child enters industry he becomes a part of the production scheme. Once he has left school he is on his own to sink or swim as the case may be in a competitive environment. Children of 14 and 15 still need protection and guidance. Those who remain in school until they are at least 16 are more ready to cope with the situation when they enter employment.

Young people seldom attain full muscular development before they reach 18 years. Boys under 18, as well as girls, should therefore, be excluded from jobs involving the lifting of heavy weights and from other heavy labor because of the danger of excessive fatigue and of serious muscular strain.

Because of their susceptibility to injury from industrial poisons, workers under 18 should be excluded also from jobs involving exposure to toxic substances, even though control measures considered adequate for adults are in effect. And because such young workers lack mature judgment and caution, they should be kept from jobs involving high risk of accidental injury.

Many accidents to working children result from work at jobs that are beyond their years. These are accidents that can and should be prevented. Young people are naturally less mature in judgment and less stable than older persons. This, combined with their lack of experience, causes them to take chances an adult worker would not take. When working at a job requiring constant attention or mature judgment, they are, therefore, more likely to be injured than the older worker.

Work injury rates are nearly 50 percent higher for minors under 18 than for adults in manufacturing industries as a whole, according to preliminary figures for 1945 compiled from a special sample survey of industrial injuries recently made by the Bureau of Labor Statistics.

The money cost of industrial accidents to labor and management

exceeds \$3,500,000,000 a year. But the human wastage, especially when young workers on the threshold of their working life are killed or crippled, defies calculation.

Jobs that are dangerous for adults should never be given to boys and girls under 18. Moreover, some jobs that may be safe for adults are hazardous or injurious for adolescents.

Nightwork has been for many years considered harmful for all workers and particularly so for young persons, who need special measures for health protection. The resolutions of the International Conference on Labor Legislation adopted half a century ago, March 29, 1890, included a statement as to the undesirability of night work for children under 16. The Berne Convention of 1906 forbade the employment at night of girls and women, without distinction as to age.

The reasons for prohibition of night work are based upon the fact of night work itself and not upon the nature of the particular occupation in which the workers engage. The International Labor Organization has already adopted conventions prohibiting night work for young persons under 18 in both industrial and nonindustrial occupations.

The young worker under 18 is still immature; he has physiological needs beyond those of older persons; he is passing through a most critical period of his physical development, when his body must meet the unusual demands of rapid growth and physiological readjustment. Occupational life places a second burden upon this immature physique, and makes it especially important that young persons be specially protected from fatigue and overstrain through safeguards that will conserve their physical energy and build up resistance to physical and nervous strain.

Night work conflicts with the satisfaction of all these needs of young persons. Instead of conserving physical energy and building up resistance, it interferes with the possibility of getting sufficient sleep for health and vigor, and instead of avoiding fatigue, it induces greater fatigue than day work. Moreover, it means to the worker the loss of the tonic and stimulating effects of sunlight upon physical well being.

A daytime sleep period is in general less satisfactory than a sleep period at night, not only for physiological reasons but because of the inevitable disturbances of light, noise, and other adverse environmental influences. The difficulty of getting sufficient sleep is increased in the case of adolescents because the intellectual immaturity and emotional instability of the young person act against the establishment of the self-discipline necessary for the difficult process of reversing the sleep pattern.

Long continued lack of adequate rest and sleep results in chronic fatigue; the greater fatigue induced by night work is a medical commonplace as well as a fact of general knowledge.

Special reasons for avoiding fatigue for young persons include the

following: Young persons are particularly liable to tuberculosis. Tuberculosis infection that under favorable conditions would be trivial, may be converted into grave disease if the young person is subjected to special strain, such as that resulting from fatigue.

Mental health, like emotional stability, is adversely affected by fatigue, and especially cumulative fatigue, which leads to a lowered psychophysical tone and heightened suggestibility; in early adolescence, fatigue comes easier and sooner, yet restless activity tends to cloak the effects of it.

Although fatigue is not directly measurable as a cause of accidents it appears that it is an important factor in leading to accidents. The tired worker gets into trouble with his materials and machines. His weariness makes him inattentive to the job at hand. Added to the generally recognized susceptibility of the young worker to accident, this is an additional argument against night work for young persons under 18.

Long Hours: It is poor economy in the long run to prolong working hours beyond a certain point. Excessive fatigue not only reduces the efficiency of the young worker but may lead to accidents and, if long continued, may damage his health. To prevent overfatigue, boys and girls under 18 should not be permitted to work more than 8 hours a day or 40 hours a week. The child-labor laws of 15 States now have a maximum workweek of 44 hours or less with 27 more setting a 48-hour week for workers up to 16 or 18 years of age in a range of occupations that varies from State to State. Forty-two States set a maximum 8-hour day for minors under 16 or 18. These standards are also a matter of National policy.

Working hours shorter than 8 a day and 40 a week may be essential for young people on jobs that call for marked physical exertion, monotonous and repetitive work, continuous standing or continuous sitting in one position. Growing boys and girls should have variety and free movement in their activities. The confinement and monotony of repetitive factory work for long hours, especially when a speed-up system permits no moments of relaxation on the job, take their toll among young workers in nervous strain and chronic fatigue or in accidents.

Lunch and Rest Periods: Young people need adequate lunch and rest periods and at least 1 day's rest in seven.

In the United States, the better State child-labor laws set up certain conditions for issuance of employment certificates which are required for the employment of minors up to 16 or to 18 years of age. These conditions include the requirement that the minor prove his age, that he submit a statement from his prospective employer as to the type of job the minor will do; and that he present proof of his physical fitness to do this particular work.

To prove physical fitness a medical examination should be required. The better laws provide:

(1) The examination shall be given by a public health or public school physician and there shall be no charge to the child or the employer.

(2) It shall be made in relation to the job the boy or girl is to enter and no employment certificate shall be issued unless the examination shows the child is able to be employed in such work, or to be employed in such work under particular limitations, which limitations shall be specified on the employment certificate. (For instance, a boy might be found on examination physically able to work as a clerk in an office but there might be limitations on his ability to run errands or climb stairs because of a heart condition.)

(3) The examination shall be made under standards and procedures prescribed by the administrative agency (after consultation with health and education departments) and shall be recorded on forms provided by such agency.

Some laws provide that a certificate of physical fitness may be issued for a specific period of time, when the physician believes that the child's health is such as to make this advisable. Thus the child is required to return for reexamination. Such a provision makes it possible to follow up on whether suggested corrective measures have been taken and to follow up on the child's condition, as for instance, to determine whether deafness is increasing.

In the 34 States where physical examinations are required before issuance of certificates for children of certain ages, or where the issuing officer has authority to require such an examination, there is some machinery, either specifically stated in the law or provided by regulation, that gives opportunity for a new physical examination when the child changes jobs, and such an examination is required. The machinery usually consists of a requirement that the certificate must be issued to a particular employer and is valid on'y in his hands, and that the employer return the certificate to the issuing officer when the child leaves his employ.

The requirement of periodical physical examinations of minors during employment has not been developed in the United States to any extent. In a very few States a factory inspector or some other State official enforcing the child-labor law may require a child found at work to secure a certificate of physical fitness from a physician in order to continue in employment. In New Mexico and Virginia the certificate is valid only for a specified period—6 months and 12 months respectively. When it is renewed, a new physical examination is required in Virginia, and in New Mexico renewal is conditioned upon a satisfactory showing that the child is in good health.

At a conference held in New York in 1945, during a discussion of the problems in relation to the administration of the law requiring a physical examination before an employment certificate could be issued, it was

suggested that changes be considered in the "Pledge of Employment" form. This gives the physician a better idea of what the child's job will involve, and permits him to relate the findings of his examination to the job the child will be doing. Such changes might include more detailed questions, to be answered by the prospective employer under "Description of minor's work" such as: Time spent at work standing; Time spent at work sitting; Weight lifting: (a) maximum weights, (b) distances weights carried, (c) heights of weight lifting, (d) distances of walking outdoors, (e) stair climbing.

What can this group do?

State labor departments, as the agencies responsible in most States for enforcing child-labor and other labor laws, can do much to protect boys and girls against work at too early an age or under harmful conditions. Through careful supervision of the issuance of employment certificates, where this is their function, they can also contribute greatly to upholding good child-labor standards. They should be a source of information as to the extent of child labor and the conditions under which young people are working.

Schools can contribute facilities for physical examinations and follow-up. If other agencies do not offer adequate vocational-guidance and junior placement services, schools should give these services in order to steer students into occupations for which they are fitted. Schools should be active in protecting boys and girls who are working after school by watching to see that the kinds of employment they enter and the hours they work are not detrimental to them. Through health-education activities the schools should convince young people of the importance of themselves safeguarding their health.

When issuance of employment and age certificates is a school function, the school can make an additional contribution to the health and legal protection of young workers through careful issuance of the certificates.

Youth-serving agencies are in a position to promote public understanding of what should be done to keep young workers well. They can guide them into employment having proper safeguards and can help them to accept responsibility for their own health. They can promote health directly by offering recreational and leisure-time activities to satisfy young workers' need for play, relaxation, and companionship.

Physicians and public-health Nurses through their contacts with young people and their families, are frequently in a position to point out the value of having a physical examination before beginning work and periodic health check-ups. They can often advise boys and girls about jobs suited to their physical capacities.

All physicians should be alert to the health problems of young workers. Those who are concerned with school health, industrial hygiene, or community health programs should make special effort to have these pro-

grams available to and known to young working people, who for one reason or another often fail to benefit from them fully.

Health officials above all, are in a strategic position to assume leadership in developing health protection for young workers. They can sponsor educational programs to awaken the community to the importance of this protection. In cooperation with the schools and other groups they can organize or give advice on programs for physical examinations, for medical care, and for other followup and corrective services.

The leadership of county health departments will be needed, especially in developing plans for the provision of medical care for young farm workers if they are sick or have accidents.

Through vigorous enforcement of laws and ordinances pertaining to sanitation, water supply, and other public-health essentials in factories, schools, homes, and work camps, and on farms, health officials serving in city or country can make sure that standards for health protection are maintained.

PROTECCIÓN A LA SALUD DEL JOVEN TRABAJADOR (*Sumario*)

Se discuten los problemas de salubridad del trabajador joven, bajo cuatro aspectos: (1) comenzar a trabajar a edad muy temprana, (2) trabajar en horas demasiado temprano o hasta muy tarde, o excesivas, (3) trabajo peligroso o dañino a la salud, y (4) requisito del examen físico para la extensión del certificado de salud; para realizar lo cual son necesarias leyes que reglamenten el trabajo de menores, pues no es de esperar que la industria se haga responsable de la asistencia a los mismos. No deben emplearse jóvenes de menos de 18 años en trabajos que exijan levantar pesos o los exponga a toxinas o venenos industriales que pueden perjudicar su salud, peligros que aumentan en un 50% en los menores de esa edad. Igualmente deberá prohibirse a dichos trabajadores labores fatigosas y horas excesivas que conducen a accidentes y perjuicios a la salud, ya que la juventud requiere reposo, comida adecuada y descansar por lo menos un día a la semana. En 34 Estados se exige un examen físico antes de presentar certificado para empleo, pero aun no se ha implantado en los Estados Unidos como medida general el requisito de un examen físico periódico. Los departamentos de trabajo de los Estados pueden promulgar leyes regulando el trabajo de menores; las escuelas pueden proporcionar facilidades para el examen físico, expedir certificados e impartir educación higiénica; los departamentos que tienen a su cargo los problemas de la juventud pueden promover un entendimiento público sobre esos aspectos; los médicos y enfermeras pueden estimular el examen físico, pero el jefe de salubridad es el que debe asumir la responsabilidad de velar porque se establezcan medidas de protección para la salud de los jóvenes trabajadores.

Acción antibacteriana.—Francisco Ruiz Sánchez, Estela Ponce de León y Guillermo Orozco (*Medicina*, 97, mzo., 1948) investigaron la acción antibacteriana de 14 infusiones de maderas de México, encontrando que solamente el *Prosopis juliflora* en infusión del 1:10 ejercía efecto inhibitor sobre el crecimiento del estafilococo, del bacilo carbonoso y del colibacilo, a diluciones máximas de 1:250 de 1:10 y 1:2, respectivamente.