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THE INPLANT EYE PROTECTIVE-CORRECTIVE PROGRAM

BY

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In a recent report, the New York State Workmen's Compensation Board indicated that during 1960 there occurred the least number of industrial accidents since 1940 —even though the number of people covered by Workmen's Compensation has been on the increase during this period.

The report further pointed out that "this favorable trend is reasonably attributal to an increase in safety practices on the part of both the employers and employees throughout the state".

Injury curtailment such as this, is not just an accident. It comes about through years of tireless work and all out effort. One must beware of the tendencies that sometime develop after establishing a favorable trend, and that is to forget the past human suffering and costly expenditure and to begin to take safety for granted. One must guard against such a let down and be constantly alert to recognize this state of mind.

It is important to continue this injury reduction trend throughout the world and to continue on to set new records. To accomplish this one must learn more about eye safety and vision programs in industry. To learn how to go about building a top notch eye program, what type of eye program would be most suitable and efficient for your particular plant, how to improve your present program, to get maximum results with a minimum of expenditure and how to conserve and guard most effectively what is probably the employee's most valuable possession —their eyesight.

There are numerous variations of eye programs in industry to-day. But, in my opinion only one type is really complete, comprehensive and totally effec-

tive, it is called the "In-Plan Eye Protective And Corrective Program". It renders the complete eye services industry needs right within the plan. In-plant programs have been used for many years with great success, achieving tremendous records in such plants as Eastman Kodak Company, Sperry Gyroscope Company, Brooklyn Naval Ship Yard and many others. This does not mean that an in-plant eye program is suitable only for large companies that employ thousands of people but it can be effectively employed even in small plants having as few as 200 employees, but conducted on a proportionate basis.

Fig. 1

Directing the in-plant program and assuming total responsibilities for it, is the trained professional eye man, either the in-plant Optometrist or Ophthalmologist. It is amazing to hear of the many so-called industrial eye programs that do not retain the direct services of a professional eye man to guide the program. Everybody in the plant seems to assume these responsibilities. In some plants it may be the personnel manager or general shop foreman, in others it may

be the security officer or shop steward. Everybody seems to get into the act except the properly trained individual, the Optometrist or Ophthalmologist and they wonder why the program fails.

Can you imagine a company having an Industrial Relations Program, an Employment Program or a Manufacturing Program without having qualified, experienced and trained personnel in their respective fields to guide these operations? How then can an industrial vision program be effective without the same?

I would hate to have responsibility thrust at me to design and engineer a new, sophiscated missile guidance system for Sperry. It might be wrapped in an impressive looking cabinet, but if it was supposed to guide a space ship to the moon it would probably direct it to Pluto instead.

The in-plant Optometrist is in most cases a salaried company employee. In some smaller plants, remuneration may be either on a salary basis, a per session fee, an annual retainer or paid on an hourly basis.

Usually the in-plant Optometrist reports directly to the Medical Director or Administrator. In some plants he might come under the Industrial Relations Director, the Personnel Manager, the Safety Director or the Administrative Vice President. Where he appears on the organization charts is not too important. The important thing is that the company recognizes the need for his professional services.

The role of the in-plant Optometrist is quite extensive. His three major areas of responsibility include:

1. Examination and proper correction of employee's vision for the job.

2. Dispensing of the corrective and plano safety glasses of various types to eliminate eye injuries and eye losses.

3. To develop and administer a pre-placement vision screening program, so that applicants with proper visual qualifications are selected for the job.

In tackling the first job, the in-plant Optometrist must make a careful analysis of every job classification and determine its specific visual job demands. Some factors to be considered include working distance, eye movements, lighting environments, position of employee at job, whether or not multi-focal lenses will be suitable or if other supplementary vision aids migth be necessary. The intimate knowledge of these factors gives the in-plant Optometrist a decided advantage over the outside practitioner in examining and prescribing more accurately the corrective lenses required for the job.

If the company is paying for these materials it is important that the prescription incorporated into the safety glasses be accurate so they can be worn comfortably on the job, otherwise the safety glasses will not be worn and new prescription glasses may have to be ordered.

This would make it considerably more costly to the company. This is one of the major advantages of examining the employee's eyes in the plant.

Here are just two examples where an employee's outside prescription was of no value to him on the job.

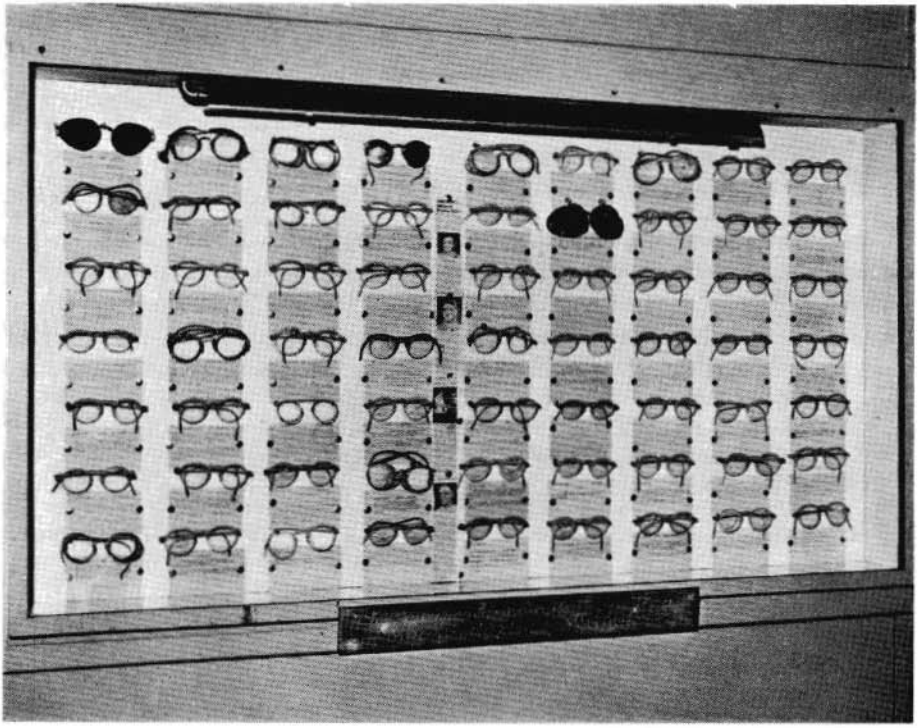

Fig. 2

One employee had a correction issued to him for maximum seeing at 13" when his job working distance was 18".

Another example involved an employee who during World War II was transferred from the day shift to the night shift. He suffered unusual discomfort. The outside practitioner told him after examination that the lighting in the

plant at night was the cause of his trouble. Tinted green prescription glasses were prescribed for him. But little did the outside practitioner realize that the lighting conditions in the plant at night were identical to those during the day. This company produced defense weapons and all of the plants windows were blacked out. The in-plant Optometrist certainly would have recognized this.

To carry out the second major task, dispensing corrective and plano safety glasses, the in-plant Optometrist cooperates with the Safety Engineer in making a through study of the possible eye hazards of each job, and determines what type of safety eye protection will be most effective in each case.

Various types of safety glasses are utilized. Included are regular spectacle type with or without side shields' goggles or plastic shields. All contain toughenyed or case hardened lenses 3 mm. center thickness or plastic lenses. Some contain various types of filter lenses for absorption of harmful radiation or glare occupations such as welders, silver solderers, heat treaters, pourers, etc.

The in-plant Optometrist is responsible for dispensing, adjusting, maintenance and repair of all eye safety equipment. In addition he assists the purchasing department in the purchase of the safety eye equipment with a view toward maintaining a constant quality standard. He is also responsible for the maitenance of the stock and inventory.

The third basic duty of the in-plant Optometrist — developing and administering pre-placement vision tests. Selection of applicants with the proper seeing skills for the job is of major importance to industry, particularly in plants where fine precision type of seeing is necessary. Spoilage, waste and mistakes because of faulty seeing skills is no small loss to industry. And make no mistakes about it. It is a factor well worth considering in to-days highly competitive markets.

With to-days Space and Electronic Ages, with quality control demands of infinitesimal dimensions, employees must meet extremely close tolerances. The inplant Optometrist with his intimate knowledge of job vision needs, will set up employment vision job standards that are pertinent for his particular plant. Using job standards derived by a national statistical average are of no value. Each plant has its own particular production problems, its own administrative problems, as well as its own specific job characteristics and environments. Each plant has to be individually considered.

Vision screening results ahould be analyzed by the in-plant Optometrist. Many plants are deprived of skilled personnel or many assign applicants to jobs where they fail to succeed because of lack of certain seeing skills. This occurs only in plants where there is no analysis by an in-plant Optometrist of the screening results.

The screening instrument and the battery of vision skill tests to be used should be determined by the in-plant Optometrist. Only by employing such a battery of tests rather than the use of a wall eye chart can an applicant's true eye status be quickly evaluated. For example, an applicant who will have to use a binocular microscope for inspection, would not fare well at this job, if he has a suppression of vision of one eye which could be detected by the screening ins-

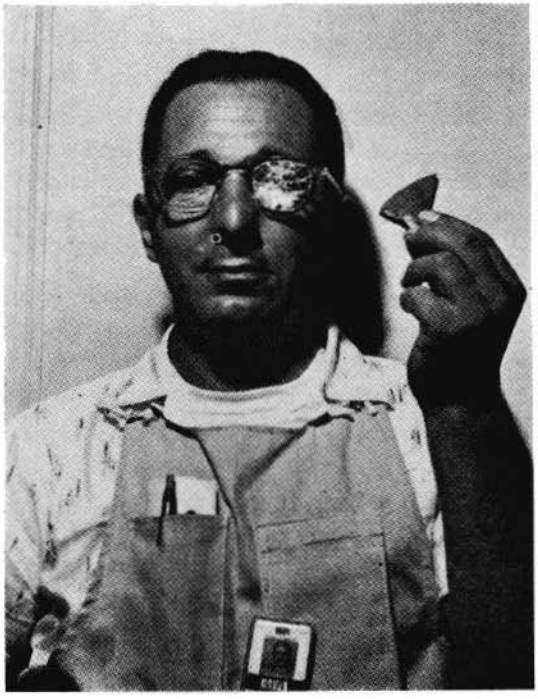

Fig. 3

trument. An assembler working with colored wires, would not make out well if he is color deficient; or a moderately nearsighted applicant who couldn't pass a Snellin wall chart test might make an excellent inspector or assembler.

In addition to the three basic responsibilities I have discussed, the in-plant Optometrist usually participates in a number of activities to insure the effectiveness of the in-plant eye program.

He will develop an educational eye safety program. He will have posters and other safety eye displays — particulary of smashed and mutilated safety glasses that have saved eyes — strategically displayed throughout the plant for all to see. He will have his plant become a member of the Wise Owl Club, sponsored

by the National Society For The Prevention Of Blindness. The Club's members are workers whose vision had been saved by safety glasses.

Working through the editor of the plant newspaper, the in-plant Optometrist presents stories on the accomplishments of the eye program, to the employees. Pictures and stories of eyes that have been saved by safety glasses are items an editor always finds space for.

The in-plant Optometrist will on many occasions be called upon for advice regarding lighting problems in the plant, color problems, optical problems, problems in physiological optics, plant layout problems, etc. Because of his background and training he on numerous occasions comes up with an effective answer —with no extra cost to the company.

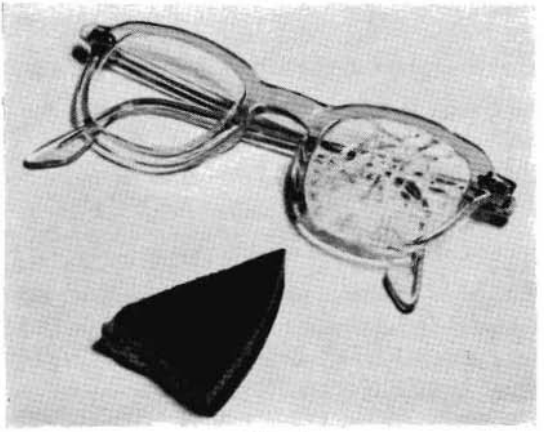

Fig. 4

Research is another aspect of his job. He might be engaged in a project correlating work spoilage with need for visual correction, or be engaged in a surveillance program to determine whether or not there may be premature changes in the eye media or eye lens of those employees engaged in work requiring use of radioactive materials or he might develop a screening program for glaucoma detection.

He maintains statistics on work performed by his department and its effectiveness in curtailing eye losses and eye injuries. The in-plant Optometrist is always on the alert to detect eye pathology which he immediately refers to the Ophthalmologist for treatment.

Although his responsibilities are many, he knows that a successful program not only depends upon him, but upon his cooperation with many other plant personnel, professional people and outside agencies.

He will work in close cooperation with the in-plant physician, the ophthalmologist, will acquaint the nursing staff with his duties, will work hand in hand with the safety engineer, the foremen and supervisors, the optical companies that manufacture the eye safety materials, and societies such as the National Society For The Prevention Of Blindness, National Safety Council, American Society of Safety Engineers, Illuminating Engineering Society, etc.

To give you a concrete example how effective an industrial in-plant program with an in-plant Optometrist can be, I will describe briefly some of the tangible results and accomplishments of the Eye Program of the Sperry Gyroscope Company.

In more than seventeen years since the inception of our Eye Program we have not had a single lost eye, but we have accummulated one hundred and six pairs of smashed and mutilated safety glasses which indicates a potential of a little over six eyes a year would be lost if we had no eye program. Six eyes was exactly the number we lost in the year prior to the inception of the program.

The direct monetary savings to the company of these six eyes a year alone, far more than covers the cost of the eye program each year.

We have reduced the number of first aid eye cases by more than ninety percent as compared to the years prior to the installation of the program.

All other benefits derived from the program can be considered as dividends.

Our pre-placement vision selection program assures our supervisors that new employees have appropriate visual skills for the job. Vision at least can be discounted as a factor for unsatisfactory performance on the job by a new employee. Other reasons can then be sought.

The correction program assures continued maximum visual performance of our personnel. Management is assured that our company ranks among the highest of all industrial companies in-so-far as efficient seeing performance for the job is concerned.

Annual eye examinations are given to our supervisory personnel as part of the annual physical examinations.

The continuous operation of our eye program for more than seventeen years is convincing proof that the Sperry Gyroscope Company considers this in-plant eye program valuable and successful. It also prooves that a properly functioning in-plant program can completely eradicate blindness caused by industrial eye accidents.

More programs like this throughout the world would help eliminate human suffering, save millions of dollars each year in insurance premiums and compensation costs and conserve the priceless eyesight of the industrial population of the world.

Sperry Gyroscope Company

Arch. Soc. amer. oftal. optom. (1962) - 4 - 217

NUEVOS INSTRUMENTOS

Modificación a nuestro equipo de Bomba y Porta-ventosas para la extracción total de la catarata por Facoerisis

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En el volumen cuarto de Estudios e Informaciones Oftalmológicas, artículo Nº 6, publicamos las características de nuestro equipo para extracción total de la catarata por facoerisis. Esta nota es para dar cuenta de dos pequeñas modificaciones

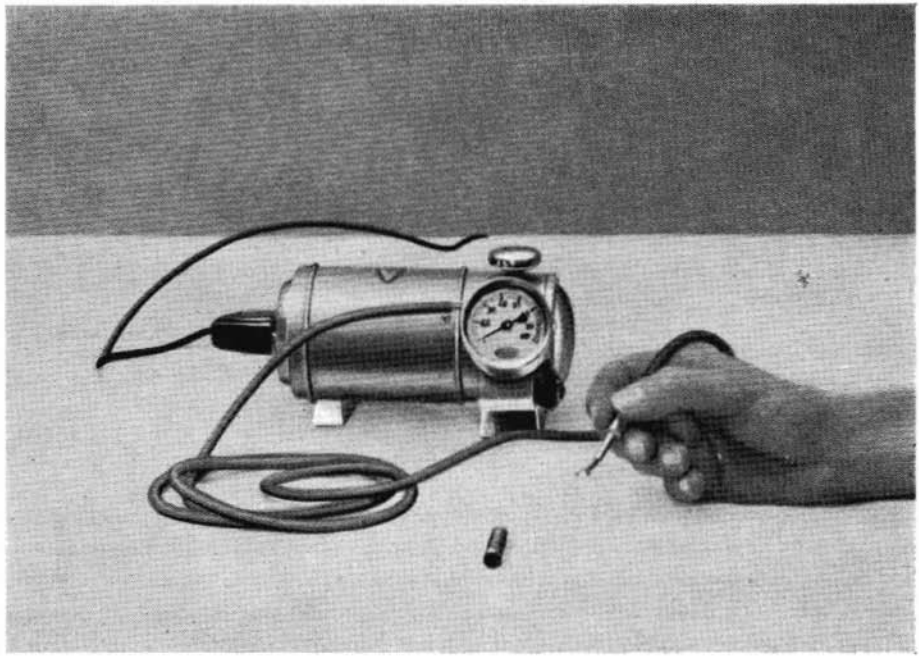

Fig. 1. Bomba y portaventosas sujetado tal como se emplea para el ojo derecho.

que hemos realizado hace años y que hemos empleado regularmente a nuestra entera satisfacción y que consideramos constituyen una mejora al aparato original.

Aspirador:

En la bomba aspiradora de vacío, la modificación introducida ha sido con relación a la situación de la toma de vacío. Está, situada en la parte inferior del manómetro regulador en los primeros modelos, actualmente lo está en la superior, con el fin de evitar que el aceite que lubrica la bomba aspiradora penetre con facilidad en el tubo de caucho que une ésta con el porta ventosas (Fig. 1).

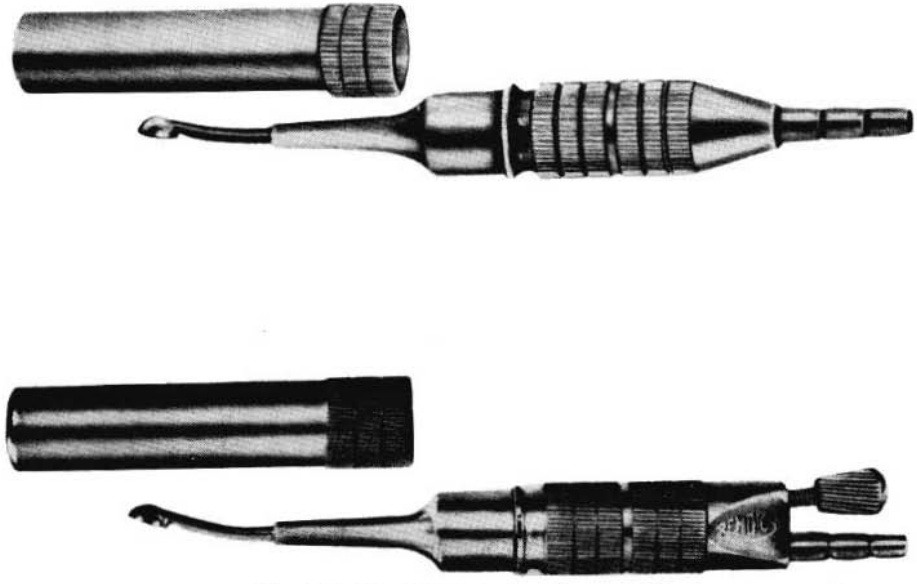

Fig. 2. Portaventosas con y sin regulador.

Porta Ventosas:

El porta ventosas construido en 2 modelos con o sin regulador (Fig. 2) se ha hecho fabricar en Duraluminio. Con ello el peso del instrumento queda sumamente reducido permitiendo una mayor sensibilidad en la mano del operador, factor este importante en todas las intervenciones y especialmente cuando se emplea zonolulisis enzimática con alfaquimotripsina en la cual el contacto de la ventosa con la cápsula del cristalino debe ser sumamente suave. El peso del porta vento-

sas construído en acero inoxidable es de 24.5 grs. El peso del porta ventosas construído en Duraluminio es de 8,2 grs.

Estos porta ventosas en duraluminio deben ser esterilizados en la estufa seca. Las substancias químicas pueden atacar más fácilmente el aluminio y determinar dificultades en el funcionamiento del regulador y también favorecer la obstrucción de los conductos interiores del instrumento. Si se dispone de un solo instrumento, no hay inconveniente, en intervenciones sucesivas, en flamear la ventosa a la llama de una lámpara de alcohol para esterilizarla. Sin embargo, este procedimiento a la larga afecta la soldadura de la ventosa y la duración de la misma se acorta en forma considerable. Esta conducta puede seguirse en caso de necesidad solamente con las ventosas de platino.

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