Association of American Railroads

PROCEEDINGS

OF THE

THIRTY-SECOND ANNUAL MEETING

OF THE

MEDICAL AND SURGICAL SECTION

CHICAGO, ILLINOIS
MARCH 31, 1952

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THIRTY-SECOND ANNUAL MEETING

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MEDICAL AND SURGICAL SECTION

HELD AT THE

DRAKE HOTEL
CHICAGO, ILLINOIS
MARCH 31, 1952

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ASSOCIATION OF AMERICAN RAILROADS

(April, 1952)

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OFFICERS AND PERSONNEL OF COMMITTEES OF THE MEDICAL AND SURGICAL SECTION FOR THE YEAR 1951-1952

Dr. T. L. Hansen, Chairman
Dr. A. M. W. Hursh, Vice-Chairman
H. S. Dewhurst, Secretary

Committee of Direction

Dr. T. L. Hansen, Chairman
Dr. A. M. W. Hursh, Vice-Chairman

(Term expires in 1952)

Dr. M. B. Clayton, Chief Surgeon, Southern Railway System, Washington, D. C.
Dr. K. E. Dowd, Chief Medical Officer, Canadian National Railways, Montreal, Quebec, Canada.
Dr. T. L. Hansen, Chief Surgeon, Chicago, Rock Island and Pacific Railroad, Chicago, Illinois.
Dr. J. Huber Wagner, Chief Surgeon, Bessemer and Lake Erie Railroad, 525 William Penn Pl., Pittsburgh, Pennsylvania.

(Term expires in 1953)

Dr. R. J. Bennett, Jr., Chief Surgeon, Elgin, Joliet & Eastern Railway, 208 South La Salle Street, Chicago, Illinois.
Dr. J. Goldowsky, Medical Director, Central Railroad Company of New Jersey, Jersey City, New Jersey.
Dr. A. M. W. Hursh, Chief Medical Examiner, Pennsylvania Railroad System, 15 North 32nd Street, Philadelphia 4, Pennsylvania.
Dr. W. L. Mishler, Chief Surgeon, Erie Railroad, 608 Republic Building, Cleveland 1, Ohio.

(Term expires in 1954)

Dr. Duncan Eve, Chief Surgeon, Nashville, Chattanooga & St. Louis Railway, Nashville, Tenn.
Dr. R. M. Graham, Director, Department of Medicine and Sanitation, The Pullman Company, Chicago, Illinois.
*Dr. A. R. Metz, Chief Surgeon (Lines East), Chicago, Milwaukee, St. Paul & Pacific Railroad, Chicago, Illinois.
Dr. W. W. Washburn, Chief Surgeon, Southern Pacific Company, San Francisco 17, California.

(*Retired effective February 1, 1952.)

Committee on Disability and Rehabilitation

Dr. James K. Stack (Chairman), Chief Surgeon, Chicago & North Western Railway, 127 North Clinton Street, Chicago 6, Illinois.
Dr. J. F. DePree, Chief Surgeon (Lines West), Chicago, Milwaukee, St. Paul & Pacific Railroad, 407 Medical Arts Building, Seattle 1, Washington.
Dr. S. M. English, Medical & Surgical Director, Room 217 B&O Central Building, Baltimore 1, Maryland.
Dr. R. S. Kieffer, Chief Surgeon, Missouri-Kansas-Texas Railroad, St. Louis 1, Missouri.
Dr. W. W. Washburn, Chief Surgeon, Southern Pacific Company, Hospital Department, 1400 Fell Street, San Francisco 17, California.

Committee on Trauma

Dr. B. W. Stockwell (Chairman), Chief Surgeon, Detroit & Toledo Shore Line Railroad, Detroit, Michigan.
Dr. Ralph G. Carothers, Chief Surgeon, Cincinnati, New Orleans & Texas Pacific Railway, Cincinnati 2, Ohio.
Dr. Duncan Eve, Chief Surgeon, Nashville, Chattanooga & St. Louis Railway, 2001 Hayes Street, Nashville 4, Tennessee.
Dr. C. F. Holton, Chief Surgeon, Central of Georgia Railway, Savannah, Georgia.
Dr. J. Huber Wagner, Chief Surgeon, Bessemer & Lake Erie Railroad, Pittsburgh, Pennsylvania.

Committee on Developments Resulting from Physical Examinations

Dr. R. J. Bennett, Jr. (Chairman), Chief Surgeon, Elgin, Joliet & Eastern Railway, 208 South La Salle Street, Chicago, Illinois.
Dr. J. J. Brandabur, Chief Medical Examiner, Chesapeake & Ohio Ry., Huntington, West Virginia.
Dr. B. I. Derauf, Chief Surgeon, Northern Pacific Ry., St. Paul 1, Minnesota.
Dr. O. H. Horrall, Chief Surgeon, Chicago, Burlington & Quincy Railroad, 547 West Jackson Boulevard, Chicago 6, Illinois.
Dr. K. C. Walden, Superintendent and Medical Director, Relief Department, Atlantic Coast Line Railroad, Wilmington, North Carolina.
Dr. R. S. Westline, Chief Surgeon, Chicago & Eastern Illinois Railroad, 334 West 63rd Street, Chicago, Illinois.

Committee on Medical Aspects of Air Conditioning of Cars

Dr. R. M. Graham (Chairman), Director, Department of Medicine and Sanitation, The Pullman Company, Merchandise Mart Plaza, 222 West North Bank Drive, Chicago 54, Illinois.
Dr. M. B. Clayton, Chief Surgeon, Southern Railway System, 15th and K Streets N.W., Washington, D. C.
Dr. Charles B. Fenwick, Chief of Medical Services, Canadian Pacific Railway, Windsor Station, Montreal, Quebec, Canada.

Representatives of the Medical and Surgical Section on the Joint Committee on Railway Sanitation

Dr. R. M. Graham (Chairman), Director, Department of Medicine and Sanitation, The Pullman Company, Chicago, Illinois.

Dr. M. B. Clayton, Chief Surgeon, Southern Railway System, Washington, D. C.

Dr. A. M. W. Hursh, Chief Medical Examiner, Pennsylvania Railroad, Philadelphia, Pennsylvania.

ASSOCIATION OF AMERICAN RAILROADS

OPERATING-TRANSPORTATION DIVISION
MEDICAL AND SURGICAL SECTION

RULES OF ORDER

1. **REPRESENTATION:** As provided in the Plan of Organization, the representation of member roads in the Medical and Surgical Section shall be Chief Surgeons or other persons engaged in a similar capacity. The Railway Express Agency, Inc., and the Pullman Company are eligible for membership in this Section.

2. **AFFILIATED MEMBERS:** A representative of an organization collaborating or cooperating with the Section may become an affiliated member thereof upon the approval of his application by the Committee of Direction. An affiliated member shall have the rights and privileges accorded a member road representative, except voting or the holding of office.

Officers and Committees

3. The officers of the Section shall consist of a Chairman, Vice-Chairman and Secretary.

(a) As provided in the Plan of Organization, the **CHAIRMAN** and **VICE-CHAIRMAN** shall be elected by the Committee of Direction from its membership. Their terms of office shall be one year. A Chairman will not succeed himself.

(b) The **SECRETARY** will be appointed by the General Committee of the Division. His salary shall be fixed by that Committee, subject to the approval of the Vice-President, Operations and Maintenance Department.

(c) The **COMMITTEE OF DIRECTION** will consist of twelve members, territorially representative as far as practicable—one each from New England and Canada; four from the East; two from the South and four from the West—elected as hereinafter prescribed, each of whom shall serve for three years.

The terms of office of all elective members of the Committee of Direction shall expire at the conclusion of the annual meeting. Vacancies in the committee membership shall be filled by appointment of the Committee until the next election.

In addition to the above, the Surgeon-General of the United States Bureau of Public Health Service or a representative to be designated by him, and a representative to be designated by the Conference of State and Provincial Health Authorities of North America shall be honorary members of the Committee of Direction.

The Committee of Direction will select from its elective membership a Chairman and Vice-Chairman of the Section, whose terms of office shall be one year. A Chairman will not succeed himself.

(d) The Standing Committees of the Section will be as follows:

Committee on Disability and Rehabilitation
Committee on Trauma
Committee on Developments Resulting from Physical Examinations
Committee on Medical Aspects of Air Conditioning of Cars.

The representation of member roads on these committees will be, so far as is practicable, territorially selected, in approximately the same proportions as that of the Committee of Direction, personnel to be named each year by the Committee of Direction immediately following adjournment of the annual meeting.

Duties of Officers

4. The **CHAIRMAN** shall have general supervision over the affairs of the Section and shall preside at meetings of the Section and at meetings of the Committee of Direction.

5. The **VICE-CHAIRMAN**, in the absence of the Chairman, shall perform the duties of the Chairman and such other duties as may be assigned.

6. (a) The **SECRETARY** shall perform the usual duties of that office and such other duties as may be assigned to him by the Chairman.

(b) He shall receive six weeks in advance of the annual meeting each year the report of the Committee on Nominations, as elsewhere provided for, and will submit to the membership at the annual meeting the nominations contained in that report, to fill the vacancies in the membership of the Committee of Direction. He shall announce the result of the election promptly to the members.

Duties of Committees

7. The **COMMITTEE OF DIRECTION** shall:

(a) Exercise general supervision over the interests and affairs of the Section.

(b) Be empowered to act on behalf of the Section in the interim between meetings and shall submit at each meeting a report covering its actions.

(c) Examine and decide what portion of communications, papers and reports shall be submitted at the meetings. It shall determine which, if any, of the subjects presented by the various committees, shall be referred to the General Committee of the Division.

(d) Appoint two months in advance of the annual meeting each year a Committee on Nominations, consisting of representatives of five member roads, who shall not be members of the Committee of Direction.

(e) Appoint additional committees as required.

(f) Submit to the Chairman, General Committee, detail of contemplated financial requirements for conducting the work of the Section as required or as called for by that official.

(g) Call annual meetings of the Section, subject to the approval of the General Committee of the Division, if in its judgment conditions warrant.

(h) Call meetings of the Section, upon not less than thirty days' notice to each member. It must call special meetings of the Section upon the request, in writing, of a majority of the member roads.

8. The **COMMITTEE ON NOMINATIONS**, appointed as above prescribed, shall report to the Secretary at least six weeks in advance of the annual meeting of each year, at least two nominations for each impending vacancy to replace the four members of the Committee of Direction whose terms expire that year, and to fill any vacancy.

The duties of the Standing Committees shall be as follows:

9. COMMITTEE NO. 1—The **COMMITTEE ON DISABILITY AND REHABILITATION** shall study and report, with suggestions or recommendations, on such subjects that have to do with the physical efficiency or inefficiency of railroad employes. It shall also consider ways and means for the rehabilitation of injured or incapacitated employes and the complete restoration of function.

10. COMMITTEE NO. 2—**THE COMMITTEE ON TRAUMA** shall study and report on the treatment and transportation of fracture cases including (a) Diagnosis of fractures, (b) First aid and transportation splints, (c) Fracture report forms, (d) X-ray work in connection with fractures, and similar subjects.

11. COMMITTEE NO. 3—The **COMMITTEE ON DEVELOPMENTS RESULTING FROM PHYSICAL EXAMINATIONS** shall analyze and make report, with recommendations or suggestions, on data made available by periodic examinations, etc. It shall study and revise as conditions may warrant, the recommended standards covering physical examinations as well as the forms used in connection therewith.

12. COMMITTEE NO. 4—The **COMMITTEE ON MEDICAL ASPECTS OF AIR CONDITIONING OF CARS** shall study and report on this subject in its relation to the health and comfort of travelers, cooperating with other departments handling matters relating to air conditioning of equipment.

13. **VOTING AT MEETINGS OF SECTION:** (a) Vote may be taken viva voce, by rising, by roll call or by ballot. Each member road shall be entitled to one vote. The vote of the majority of the member roads represented shall be required to decide any question, motion or resolution, unless otherwise ordered. (b) Voting for candidates for membership on the Committee of Direction shall be by ballot. (c) Unless otherwise designated by it, the ranking officer will be recognized as the voting representative of a road at any meeting.

14. **LETTER BALLOTS** may be taken upon any subject by order of the Committee of Direction and must be taken on all questions affecting physical property. The voting power of the member roads shall be proportionate to the ownership of miles of road.

15. **ORDER OF BUSINESS:** The order of business at meetings of the Section shall, unless otherwise directed by a majority of the members present, be as follows:

Approval of minutes of last meeting
Reports of Standing Committees
Reports of Special Committee
Reports of Tellers
Unfinished Business
New Busine

16. Robert's Rules of order shall govern the proceedings of this Section, including amendment to these Rules of Order.

ASSOCIATION OF AMERICAN RAILROADS

MEDICAL AND SURGICAL SECTION

Drake Hotel, Chicago, Illinois, March 31, 1952. The following were present:

Members	Representatives
Atchison, Topeka & Santa Fe Railway	Dr. J. R. Winston, System Medical Director.
Baltimore & Ohio Chicago Terminal Railroad	Dr. S. M. English, Medical and Surgical Director.
Baltimore & Ohio Railroad	Dr. S. M. English, Medical and Surgical Director.
Bangor & Aroostook Railroad	Dr. H. C. Bandy, Chief Surgeon.
Belt Railway Company of Chicago	Dr. R. S. Westline, Chief Surgeon.
Bessemer & Lake Erie Railroad	Dr. J. Huber Wagner, Chief Surgeon.
Boston & Maine Railroad	Dr. J. R. Knowles, Chief Surgeon.
Canadian National Railways	Dr. K. E. Dowd, Chief Medical Officer.
Canadian Pacific Railway	Dr. C. P. Fenwick, Chief of Medical Services. Dr. G. Earle Wight, District Medical Officer.
Central of Georgia Railway	Dr. C. F. Holton, Chief Surgeon.
Central Railroad Company of New Jersey	Dr. Ira Goldcrasky, Medical Director.
Central Vermont Railway	Dr. K. E. Dowd, Chief Medical Officer.
Chicago & Eastern Illinois Railroad	Dr. R. S. Westline, Chief Surgeon.
Chicago & North Western Railway	Dr. J. K. Stack, Chief Surgeon. Dr. W. H. Longworth, District Surgeon.
Chicago & Western Indiana Railroad	Dr. R. S. Westline, Chief Surgeon.
Chicago, Milwaukee, St. Paul & Pacific Railroad	Dr. Raymond Householder, Chief Surgeon (Lines East). Dr. J. F. DePree, Chief Surgeon, (Lines West). Dr. W. H. Longworth, Local Surgeon.

Members	Representatives
Chicago, Rock Island & Pacific Railroad	Dr. T. L. Hansen, Chief Surgeon.
Cincinnati, New Orleans & Texas Pacific Railway	Dr. R. G. Carothers, Chief Surgeon.
Cleveland, Cincinnati, Chicago & St. Louis Railway	Dr. Wm. H. Norman, Chief Surgeon.
Colorado & Southern Railway	Dr. W. J. Longeway, Chief Surgeon.
Delaware, Lackawanna & Western Railroad	Dr. Wm. T. Davis, Chief Medical Officer.
Denver & Rio Grande Western Railroad	Dr. Ervin Hinds, Chief Surgeon.
Detroit & Toledo Shore Line Railroad	Dr. B. W. Stockwell, Chief Surgeon.
Elgin, Joliet & Eastern Railway	Dr. R. J. Bennett, Chief Surgeon.
Erie Railroad	Dr. W. E. Mishler, Chief Surgeon.
Fort Dodge, Des Moines & Southern Railway	Dr. W. H. Longworth, Chief Surgeon.
Grand Trunk Western Railway	Dr. K. E. Dowd, Chief Medical Officer. Dr. B. W. Stockwell, Chief Surgeon.
Great Northern Railway	Dr. R. C. Webb, Chief Surgeon.
Indianapolis Union Railway	Dr. Wm. H. Norman, Chief Surgeon.
Maine Central Railroad	Dr. J. R. Knowles, Chief Surgeon.
Missouri-Kansas-Texas Railroad	Dr. R. S. Kieffer, Chief Surgeon. Dr. W. A. Bowersox, Division Surgeon.
Missouri Pacific Railroad	Dr. J. A. Lembeck, Missouri Pacific Hospital Association.
New York Central System	Dr. Wm. H. Norman, Chief Surgeon. Dr. C. H. O'Donnell, Medical Director.
New York, Chicago & St. Louis Railroad	Dr. J. W. Houk, Medical Director.
Norfolk & Western Railway	Dr. B. E. Topham, Medical Director.
Northern Pacific Railway	Dr. B. L. Derauf, Chief Surgeon.
Pennsylvania Railroad	Dr. A. M. W. Hursh, Chief Medical Examiner. Mr. V. E. Anspacher, Chief Chemist. Dr. D. Ray Murdock, Surgeon.
Pullman Company	Dr. R. M. Graham, Director, Department of Medicine and Sanitation. Dr. L. M. Markley, Chief Medical Examiner.
Reading Company	Dr. A. Neupauer, Chief Medical Officer.
St. Louis-San Francisco Railway	Dr. V. W. Hollo, Chief Surgeon.
St. Louis Southwestern Railway	Dr. William Hibbitts, Chief Surgeon.

Members	Representatives
Soo Line Railroad	Dr. Harvey Nelson, Chief Surgeon.
Southern Pacific Company	Dr. W. W. Washburn, Chief Surgeon. Dr. J. R. Gandy, Chief Surgeon.
Southern Railway System	Dr. M. B. Clayton, Chief Surgeon.
Texas Mexican Railway	Dr. S. H. Graham, Chief Surgeon.
Union Pacific Railroad	Dr. W. G. Springer, Surgeon
Union Railroad	Dr. J. Huber Wagner, Chief Surgeon.
Virginian Railway	Dr. Southgate Leigh, Jr., Chief Surgeon.
Wabash Railroad	Mr. W. E. Gollings, Superintendent, Wabash Employes Hospitals.

Also Present

Association of American Railroads.....H. S. Dewhurst, Secretary, Medical and Surgical Section.

FIRST SESSION

Monday Morning, March 31, 1952

The Thirty-second Annual Meeting of the Medical and Surgical Section, Association of American Railroads, convened at 9:30 o'clock at the Drake Hotel, Chicago, Illinois, Chairman T. L. Hansen, Chief Surgeon, Chicago, Rock Island and Pacific Railroad, presiding.

THE CHAIRMAN: I would like to call the meeting to order.

This is the thirty-second meeting of this Section since its inception. I want to welcome all of you, old members as well as new. We especially want to welcome the new members coming in this year, and to roll out the plush carpet for them.

There have been some changes in the personnel of our membership since last year. Some of our members have retired.

Dr. Metz, Chief Surgeon of the Milwaukee, retired as of February 1st of this year. Dr. Zeinert of the Missouri Pacific retired as of July 1st of last year. Dr. Hirschfield, Chief Surgeon of the Soo Line, retired as of May 1st of last year.

Among our new members, Dr. Raymond Householder follows the footsteps of Dr. Metz for the Milwaukee Road. Dr. Harvey Nelson of Minneapolis fills the vacancy left by Dr. Hirschfield on the Soo Line. The Santa Fe has appointed Dr. Winston, of Temple, Texas, as Chief Surgeon as of about a month and a half ago.

To the best of my knowledge, those are the changes that have taken place since last year. If there are some others with which you are familiar, I will be very glad to hear about them.

Last year, during the chairmanship of Dr. Metz, he mentioned in his remarks the history of the Association, its function and purpose, and also listed the chairmen and places of meeting for each year, from the time of the inception of this organization.

Also, last year, during his administration, there was a great deal of work done in bringing up to date some of the work that has been carried on, especially that covered by the Committee on Disability and Rehabilitation, also the Committee on Developments Resulting from Physical Examinations.

In revising the reports of the Committee on Disability and Rehabilitation, all the previous reports made at the annual meetings were considered and gone over with a fine-tooth comb, and all recommendations of the Section were brought up to date, in the proceedings of last year's meeting you will find everything brought up to date with reference to the year in which they were prepared. The Committee on Developments Resulting from Physical Examinations also brought everything up to date.

There was a period when, on account of the war, there were no meetings, when these reports kind of fell by the wayside; that is, they were behind with them: all that was brought up to date. Most of you did not see these reports until the meeting of last year, and you did not have time to examine them or think about them in such a way that you could really analyze and realize what they mean. I hope that during this past year you have had time to examine them rather carefully, to see how they apply to your own railroads. We would like to have a very free discussion and opinion on all of these matters.

First aid is again becoming a warm subject; a number of the states are now beginning to give consideration to the kind of laws they should pass for the requirements of first aid equipment, so that is again becoming active.

The committees are constantly working, trying to keep up to date with the advancements in medicine. Not too much has developed this last year, but what has developed will be brought up at this meeting.

I think that sums up the situation to the present time. Now we will start in on the program as it is on the schedule. First is the report of the Committee on Disability and Rehabilitation, by Dr. James K. Stack, chairman.

DR. JAMES K. STACK (Chief Surgeon, Chicago and North Western Railway): We had one meeting during the year, and decided—as Dr. Hansen has said—that since we went over the Report of the Committee on Disability and Rehabilitation rather cursorily last year, we could expect and would appreciate comments now that you have had a year to study it.

It is the feeling of the Committee that a report of this kind need not be altered in any significant way each year, and therefore the report of the Committee this year differs in no way from the report that you have in your hand now. We will try and be glad to answer any questions, however, that you may have in regard to this report.

(For ready reference, Circular No. M&S-291, Report of Committee on Disability and Rehabilitation dated January 26, 1951, is reprinted here, as follows. The page numbers shown in the index at the end of the report refer to those in the report as issued as a separate circular. The subjects listed in this Report and the recommendations on behalf of the Section shown under each heading were further reviewed with the general discussion being off the record.)

(Circular No. M & S-291)

ASSOCIATION OF AMERICAN RAILROADS

MEDICAL AND SURGICAL SECTION

REPORT OF COMMITTEE ON DISABILITY AND REHABILITATION

Chicago 5, Ill., January 26, 1951.

TO THE MEDICAL AND SURGICAL SECTION:

Your Committee on Disability and Rehabilitation respectfully submits as its report a "Digest" of subjects considered by the Committee in past years and discussed at various Annual Meetings of the Section. This "Digest" includes a summary of up-to-date recommendations or comments under each subject and the subjects are listed in alphabetical order. There is also an index at the conclusion of the "Digest" which not only lists the names of the subjects with appropriate cross references but indicates the years in which each subject was previously considered by your Committee.

As a matter of record, the original Committee was appointed in 1921 as "Committee on Prevention and Control of Occupational Diseases and Hazards." Reports were published in 1923 and 1924. In 1925 the name of the Committee appears in the Proceedings of the Medical and Surgical Section as the "Committee on Occupational Diseases and Hazards." Reports appeared annually from 1925 to 1931, inclusive.

In 1932 the Committee was called the "Committee on Occupational Diseases and Rehabilitation," and in 1933, this name was changed to the "Committee on Disability and Rehabilitation," under which name it has continued to the present time. No reports were made in 1938, 1942-43-44-45 and 1949-50.

Your present Committee, with the assistance of Advisory Members as listed above, reviewed the published Proceedings and abstracted the various subjects discussed, as a basis for this "Digest." The Summaries that appear under each subject heading are to be considered as "recommendations to harmonize and coordinate the principles and practices of American railroads with respect to their operation."

Respectfully submitted,

COMMITTEE ON DISABILITY AND REHABILITATION,
JAMES K. STACK, M. D., Chairman.

DIGEST

ABRASIONS WITH EMBEDDED CINDERS

Abrasions from cinders cause embedding of colored materials in the skin. The result is a tatoo. All wounds should be carefully cleansed and curetted out to remove these materials.

ALCOHOLISM

Every railroad occasionally encounters the problem of an employe who has reported for work while under the influence of alcohol.

This condition can be best determined by evidence of mental confusion on the part of the individual, incoordination, and/or the odor of alcohol on his breath. Further information can be obtained by laboratory examinations of the employe's urine, breath, and blood for alcohol content.

ALLERGY, HAY FEVER AND ASTHMA

In addition to discussions on the above subject listed in the index, the Committee calls attention to discussions of the subject in the 1936 Proceedings by the Committee on Medical Aspects of Air Conditioning of Cars.

In chronic or recurring cases of allergic manifestations, it is important to try to determine the cause of the individual's sensitization. The facilities of a specialist in allergic diseases may be required in the diagnosis and treatment of such conditions.

The newer antihistaminic drugs are often of considerable value in treating acute episodes of these conditions, particularly in hay fever. Epinephrin (adrenalin) subcutaneously is frequently the drug of choice in the treatment of severe acute exacerbations.

AMEBIC DYSENTERY

In 1934 amebic dysentery was considered by the Committee and discussed following a scattered epidemic, apparently originating in Chicago.

Current medical opinion is that chronic amebic dysentery is widespread throughout the United States. The Committee recommends study of an employe for this disease when prolonged or recurrent enteritis is complained of by him.

AMPUTATIONS

The end result of amputation at the various levels is extremely important, and furthermore, the duties of the amputating surgeon are not finished until the amputated extremity has been fitted with a satisfactory artificial limb and the patient been successfully rehabilitated.

Open amputation (Guillotine) is carried out primarily on potentially infected wounds or upon individuals who are poor surgical risks. The fact that further revision may be necessary should be kept in mind and all possible length maintained.

The closed amputation is one which is performed in a clean field and in which the skin flaps are closed over the end of the stump.

The muscle in the amputation serves the function of activation and padding. Tendons are ordinarily sectioned near muscle attachments and removed. Fascias in the closed amputations aid in the grouping of muscles around the

bone stump. Nerves in open and closed amputations are gently exposed by traction, severed and allowed to retract. The periosteum and bone are divided at the level of final bone length.

In the metacarpals, metatarsals and phalanges it is recommended to save all that is possible. In the carpals and tarsals the amputations as a whole are not too successful. The ideal site of election in the leg is from 5" to 7" below the knee joint. If the amputation in the leg is shorter than 4", then the fibula should be resected. The ideal stump in the thigh is about 4" proximal to the lower end of the femur. Save all possible bone in the femur proximal to 4" above the lower end of the femur.

The ideal stump in the forearm is 3" above the lower end of the radius. Do not cut the radius and ulna shorter than 1" distal to the insertion of the biceps. The ideal stump in the arm is 3" above the lower end of the humerus. The area of election in the humerus runs distal to 4" below the upper end of the humerus. The contour of the shoulder is improved by leaving the humeral head.

Postoperatively a reasonable period of time should be allowed for healing, and then physiotherapy should be administered promptly and thoroughly so that the contours best adapted to wearing of an artificial limb are secured in a minimum of time.

The best functional results are obtained on those individuals who have prompt and efficient surgery, adequate physiotherapy, proper fitting of the limb and adequate instructions and follow-up for the most efficient use of the limb. At the present time there are several amputation centers which specialize in teaching the amputee to get the maximum use of his artificial member.

ANTIBIOTICS

With the discovery and refinement of antibiotic methods and therapy, an increasing number of these are being made available for use. Many of these have specific affinities for certain organisms. It is important when one is treating an established infection that the causative organism be known if this can be readily determined. It is also helpful to determine the sensitivity of the organism to the various antibiotic drugs. In this way therapy can be specific and the results are therefore surer and recovery expedited. The patient may develop a sensitivity to these drugs manifested by cutaneous and other allergic phenomena. The value of antibiotics in the prophylactic treatment of wound infection is still undetermined. Antibiotics should be employed conservatively.

BACK CONDITIONS

Back Injuries:

A practice has been made on a few railroads of making routine x-rays of the spines of all applicants for employment, particularly those in train service for evidence of anomalies, previous injuries or disease.

The value of such examinations is questionable, but may be of value in any future complaints of the employe.

One railroad, in addition to making the usual examinations for employment, had made x-rays of spines of 1189 applicants who passed a satisfactory physical examination. X-rays were made in two positions, with following abnormalities noted:

Spina bifida	235
Scoliosis	109
Lumbar ribs	93

Proliferative changes	85
Sacralization	61
Deformity of coccyx	37
Six lumbar vertebrae	31
Deformity of transverse process	17
Incomplete union of 1st and 2d sacral segments	25
Eleven dorsal vertebrae—eleven ribs	14
Four lumbar vertebrae	9
Thirteen dorsal vertebrae—thirteen ribs	6
Congenital deformity sacrum	4
Variation of intervertebral disc	3
Cervical ribs	5
Congenital deformity of body of vertebra	8
Incomplete union of lamina and articular process	5
Fractured ribs	16
Tuberculosis lungs	12
Fractured pelvis	4
Fractured vertebra	10
Spondylolisthesis	3
Tuberculosis vertebrae	1
Exostosis of rib	1
Calcified ilio-lumbar	2
Total variations	790
Total cases showing variations	554
Total congenital and developmental	635
Total number of cases	1189

Painful Backs:

Painful backs are frequently complained of by railway employes and alleged to be due to trivial accidents.

There are numerous causes for painful backs, some of which are as follows:

Prostatitis	Congenital defects
Chronic appendicitis	Arthritic processes
Gall stones or gall-bladder infections	Foci of infection
Spastic constipation	Posture
Renal calculus	Spondylolisthesis
Retroperitoneal calcified glands	Curvature
Abdominal ptosis	Tumors of the cord
Mucous colitis	Metastatic tumors
Carcinoma of rectum	Trichinosis
Pregnancy	Hemorrhoids
Fibroses	Neurosis
Ovarian cysts	Flat Feet
Prostate calculi	Malingering
Renal ptosis	Etc.

Any employe complaining of back pains which he alleges to be due to some trivial accident should be examined thoroughly with above possible causes kept in mind.

Sacro-Iliac Complaints:

The diagnosis of sacro-iliac conditions is made too frequently. The great majority of back complaints given this name are in reality lumbosacral lesions with lateral reference of pain.

Infections or other inflammatory conditions can involve the sacro-iliac joint but the diagnosis of sacro-iliac strain or sprain should be looked upon with suspicion.

Spondylolistheses:

Spondylolisthesis, or displacement of one vertebra on another, occurs more often in the lumbosacral junction than in any other region. It is commonly associated with a congenital defect in the pedicles of the fifth lumbar vertebra, which allows the lamina and articular facets to remain in normal relation to the sacrum, while the body of the fifth vertebra displaces forward. This condition may exist for years without symptoms and may be very mild and accompanied only by local pain, or it may be extreme and associated with symptoms due to pressure on the cauda equina.

Diagnosis may be suspected by proper examination of the back, but x-ray is the only way of confirming the diagnosis.

BLOOD PRESSURE

An employe with high blood pressure, if persistent and associated with cardio-vascular-renal disease or diabetes, etc., is an unsafe worker and, if in train service, is a menace to other employes and the public.

An employe in train service should be removed if the systolic pressure is over 200 or diastolic is over 120, or if the heart apex is to the left of the nipple line.

Employes whose blood pressure is not consistent with their weight and age, especially when associated with evidences of cardio-vascular-renal damage, should be kept under observation.

BURNS

Burns are to be looked upon as wounds. In the case of 1st and 2nd degree burns, the wound is closed and infection will not penetrate unless the protected skin layer is broken in the course of treatment. In 3rd degree burns, the wound usually is an open one and is to be treated with the respect accorded any other open wound.

The management of the extensive 3rd degree burn is carried out along two lines, that which concerns the treatment of the wound itself and that which is concerned with the systemic abnormalities that follow extensive burns. Fluid, blood and serum loss is part of the burn picture, and an upset of the protein, serum chlorides and other blood constituents should be anticipated and countered from the beginning. By the use of a mild cleansing agent and massive pressure dressings, infection can be held to a minimum and the closure of the wound by a split thickness skin graft should be done as soon as possible. If the extent of the tissue destruction can be surmised early, then excision of this area and subsequent grafting will hasten the healing process. If the extent of the burn cannot be determined, a line of demarcation may be waited for and then excision of the necrotic skin carried out. When the general condition of the patient permits, early excision is preferable to waiting for the established sloughing to occur. Plastic procedures for the relief of burn contractures are considered only after primary healing has taken place and the patient's chemistry is in good balance.

CARDIO-VASCULAR-RENAL DISEASE

A person with cardio-vascular-renal disease should have a careful examination. This examination includes the heart, blood pressure, urine, blood chemistry, and a check on the clinical symptoms. The eyes, including the eye grounds and vision should be noted. Dizzy spells, angina, edema, and dyspnoea should be carefully evaluated. The conditions of the heart muscle and coronary vessels should be determined. Repeated examination every six months or oftener is important.

Employes in train, engine, yard, and signal service with advanced aortic lesions, definite myocarditis, heart block, aneurysm, and angina pectoris and auricular fibrillations should be removed from service. Persons with auricular fibrillations have a high mortality rate. Cerebral and other complications frequently occur.

An employe with coronary occlusion should be removed from service until he presents satisfactory evidence of recovery without residual damage.

CATARACT

A cataract in one eye reduces or destroys the vision in that eye.

After operation on one eye the refraction of the two eyes is different, which causes defective vision and judgment of distance is poor. Post-operative vision, corrected or uncorrected, is exceedingly poor and judgment of distance is impaired.

Engine and train service men with cataract, whether operated on or not, should be limited to services which they can perform safely and satisfactorily. This applies also to engine and train service men with bilateral cataracts, whether operated on or not.

CHARCOAL HEATERS IN REFRIGERATOR CARS

One hazard involved in the use of charcoal heaters in refrigerator cars is the formation of carbon monoxide gas, which if inhaled in sufficient quantities causes unconsciousness, and sometimes death. With ordinary precaution, however, this hazard is found to be slight. In addition, it is found that the carbon monoxide gas developed is beneficial to commodities shipped, apparently destroying bacteria and insects in the fruits and vegetables, and retarding decay.

Instructions are issued by all companies using charcoal heaters, and it is found that the employes handling these heaters soon become just as conversant with the instructions concerning handling these heaters as they are with conventional train and operating rules.

The National Perishable Freight Committee (516 West Jackson Boulevard, Chicago 6, Illinois), has issued a circular on this subject (Circular No. 20-C, September, 1948, and Supplement No. 3 to Circular No. 20-C, December, 1948), and these rules, with some modifications, are still in use. In addition to the general instructions, placards are attached to each side of cars furnished with heaters, reading as follows:

WARNING
POISONOUS FUMES
Heated Car
(etc.)

CHRONIC ARTHRITIS

Chronic arthritis may be divided into rheumatoid arthritis and hypertrophic arthritis.

In rheumatoid arthritis (chronic infectious arthritis, atrophic arthritis and arthritis deformans) the etiology is suspected as being infectious. The knees and fingers are chiefly affected, although the disease may be shifted about from shoulder to elbow, wrists and spine.

Hypertrophic arthritis (degenerative arthritis, osteoarthritis) is usually a disease of people past middle age. Obesity or over-weight may aggravate the disease. In this condition there is a definite cartilaginous destruction in the joint and the cartilage is worn away and the underlying bone is exposed.

These two types of arthritis cannot definitely be wholly divided one from the other. Gout also should be considered in the diagnosis and treatment of arthritis.

Treatment: salicylates are by far the most useful drug in most cases up to the present time, but as a rule this relief is temporary. In early cases it is suggested that a focus of infection be identified.

ACTH has been introduced for the treatment of rheumatoid arthritis. In view of the fact that adrenal cortical stimulation affects so many important metabolic and physiologic processes in the body, great care should be exercised in the therapy. At the present time the immediate results of ACTH therapy can best be explained as dramatic. Only time will tell if these conditions may be permanently benefited. ACTH therapy can do good but it may also be harmful. Early acute cases of rheumatoid arthritis do better in general on a lower dose than is the case of long-standing more severe disease.

Similar dramatic improvement has been observed with the administration of cortisone acetate.

Disabilities from arthritis frequently are improperly attributed to injury.

COLOR VISION

A test for the detection of color defects should be one which can be carried out as rapidly as possible with maximum efficiency. The Holmgren worsteds or any standard modification have historically been very reliable. Several lantern tests have been devised which are also reliable. The Ishihara (color plate) test, which was modeled after the Stillings test, is rather accurate. There are several modifications of this test but the colors are apt to vary with the printing of the color plates.

Color plate tests are favored; lantern tests also are reliable.

Field tests are not reliable and therefore are not recommended.

THE "COMMON COLD" AND UPPER RESPIRATORY TRACT INFECTIONS

Reference is made to address of the Chairman of the Section on Internal Medicine of the American Medical Association at their convention in June 1950 on "Some Problems of the Common Cold," together with his list of references (J.A.M.A. 144; 287 Sept. 23, 1950). This is a rather complete summary of present concepts as to etiology, treatment and prophylaxis of the common cold in 1950. Also, attention is called to discussion by H. A. Reimann on "Viral Infections of the Respiratory Tract" (J.A.M.A. 132; 487 Nov. 2, 1946).

The Committee agrees that vaccines and vitamins are of little value in the prophylaxis and treatment of colds; that sterilization of the air in occupied quarters by ultra-violet light irradiation, or by aerosols, such as the glycols, is of little proven benefit in controlling the spread of the infection; and that while the use of antihistaminic drugs may be of considerable value in allergic types of rhinitis, they are of little value in virus type infections.

Attention is called to possible reactions from use of antihistaminic drugs, and it is recommended that these drugs should not be used during work by engine men, or in other occupations where poor coordination or drowsiness might prove to be disastrous.

Hygienic habits are advocated as a prophylactic measure, and medical care is advised if the affected individual is distressed or has a fever. Caution in the early stages of a "cold" is advocated, to protect other contacts and to avoid serious complications, such as pneumonia.

CROSS EYE—STRABISMUS

Strabismus usually is associated with partial loss of vision in one of the eyes, or there is an alternating vision from one eye to the other. A person so afflicted is in the same category as the one-eyed person. There is a lack of muscle balance and depth perception.

Engineers and firemen so afflicted should be limited to services which they can perform safely and satisfactorily.

DERMATITIS

Gloves which will absorb creosote should not be worn in handling of creosoted timbers, because they are likely to become impregnated with creosote and increase the severity of exposure.

In the prevention of oil dermatitis the Committee recommends the use of suitable clean clothing, the protection of exposed skin with protective creams, and thorough cleaning of skin after work.

It is advised that certain workers who may be found to have a marked sensitivity to a material used may require transfer to other types of work not involving occupational exposure to the accused irritants.

See "Poison Ivy and Poison Oak."

DIABETES

It is agreed that no diabetic taking insulin should be allowed to continue in any hazardous occupation connected with train service, where a sudden incapacity would jeopardize either his own life or the lives of others. Any diabetic taking insulin is potentially a dangerous man.

Diabetic individuals are more subject to degenerative eye changes than normal individuals, and it is recommended that eye examinations to include fundus findings by a specialist be carried out at fairly frequent intervals, especially where routine eye examinations show failing vision.

Attention is called to possible complications from injuries, especially to the lower extremities, from pre-existing diabetes, and the Committee recommends particular attention to the care and protection of lower extremities of diabetics.

Attention is also called to the association of diabetic disease with cardiovascular degenerative diseases, and occasionally with coronary artery disease.

It is emphasized that occasional injections of insulin, as once or twice a week, are dangerous, unless patient is hospitalized; also, that newer forms of slower acting insulin do not free patient from the dangers of reaction.

It is agreed that an employe with mild diabetes which is properly controlled by a satisfactory diet may be permitted to continue work in certain occupations, but that an employe in a hazardous occupation, particularly in connection with train service, should be removed from such an occupation until the diabetic condition is brought under good control without the use of insulin, and that periodic examinations are indicated to see that proper control of the disease is maintained.

Further conclusion—Any moderately severe diabetic, whether receiving insulin treatment or not, should be restricted.

DINING CAR EMPLOYE INSTRUCTIONS; FOOD HANDLERS

In 1934 following a scattered national epidemic of amebic dysentery, apparently originating in Chicago in 1933, the importance of good hygiene on the part of railroad food handlers was re-emphasized and a list of recommendations to be printed on a placard and posted under glass in kitchens of railroad dining cars and dining rooms was presented.

Comment—Several of the instructions recommended in 1934 are sound but do not conform to recent codes of practice relating to eating establishments prescribed by the U.S. Public Health Service.

Chief Surgeons are referred to recently amended Interstate Quarantine Regulations (1950) and to the Sanitation Manual for Interstate Carriers of the U.S. Public Health Service (1942). The Public Health Service is contemplating issue in the near future of several manuals relating to dining car practices, railroad servicing practices, etc., and it is contemplated that these will replace the Sanitation Manual of 1942.

The problems of dining cars, food handling, and eating and cooking utensils, along with other problems with relation to sanitary procedures, are now being actively progressed by the Federal and State Public Health agencies. The Joint Committee on Railway Sanitation of the A.A.R., on which are three medical members representing the Medical and Surgical Section, serves as one liaison group with representatives of the U.S. Public Health Service in the consideration of problems of and practices recommended for railroad sanitary procedures.

Since World War II the U.S. Public Health Service and state and local health services in many cities have been carrying on schools of instruction for restaurant workers. In many places the railroads have been invited to and have participated in these schools. Officers of dining car departments are advised by the health authorities of such meetings.

DISEASES DUE TO HEAT

There are primarily three diseases due to heat. They are as follows:

1. Heat cramps—primarily due to loss of salt. Organic diseases, alcoholism, poor hygiene, fatigue, malnutrition, generally poor health, all predispose to heat cramps. Heat cramps may be eliminated by taking sufficient table salt and water, depending upon the humidity of the day and the amount of sweat loss.

2. Heat exhaustion is primarily due to poor dietary habits. It is precipitated by improper clothing, the ingestion of too much or too little food, and poor hygiene. Prolonged physical exertion in a hot environment may aggravate this syndrome if proper food, sleep, hygiene and baths are not handled intelligently.

3. Heat stroke (heat retention, sunstroke), is due to the gradual elevation of body temperature over a period of hours or days due to the hot environment, improper clothing and improper diet. This condition may be aggravated by poor body cleanliness and hygiene. The most important point in the treatment of this condition is to pack the patient in ice until the temperature gradually descends to 103-104°F. Intravenous fluids may than be started and the ice therapy gradually suspended.

ELECTRICAL ACCIDENTS

The essentials of treatment of electrical accidents are:

1. Release the electrified person from the current in the quickest and safest possible way.

2. Institute artificial respiration immediately if victim is not breathing and continue artificial respiration preferably by the Schaeffer prone pressure method, until there are unmistakable signs of death.

3. Victims of electrical accidents in the vicinity of large cities may receive rapid emergency treatment from the inhalator squad maintained by most modern Police Departments.

EPILEPSY AND EPILEPTIC EQUIVALENTS

The subject of epilepsy and epileptic equivalents is one of great importance in railroad medicine, and the dangers of such a condition cannot be too strongly impressed upon the Chief Surgeons of member Lines.

It is desired to emphasize that all epileptic seizures, whether of the Jacksonian or any other type, should be cause for permanent removal from any hazardous service connected with railroad operations. It is not essential that a "Grand Mal" should be exhibited, as any case showing a "Petit Mal" is just as important both to the employe and the employer when exhibited by any person engaged in engine or train service or other hazardous occupations.

As previously stated, the epileptic equivalents present a far more difficult problem than actual epileptic seizures since attacks may not be accompanied by convulsions, and the entire manifestations may consist merely of a momentary loss or lapse of consciousness. During such a brief state, serious accidents could be caused by employes engaged in engine or train service, which gives the subject a momentous importance from the Railroad's standpoint.

It is recommended that all cases of disruption of the mental faculties, even though momentary, should be carefully investigated before permitting the employe to return to duty in any hazardous occupation. Any recurrence should be considered sufficient to warrant the affection as being classed of a disqualifying nature and such employes should be prohibited from engaging in any train or engine work, or other hazardous occupation.

FIRST AID AND EMERGENCY TREATMENT

First Aid should be considered as that treatment which is given to a sick or injured person by laymen. The services of a Physician should be referred to as Emergency Treatment and not as First Aid. The essential principles of First Aid are already published in a pamphlet endorsed by this Section. Such a pamphlet should be available to every railroad employe, particularly those who are engaged in work of a hazardous nature.

FOCI OF INFECTION

Teeth, tonsils, prostate and sinuses are the most important foci of infection. The middle ear, gallbladder, appendix, urinary bladder and colon are offenders to a lesser degree. Carious teeth, pyorrhea and other gum infections should not be overlooked.

Whenever injury or pain is complained of in the lumbar or sacral regions without objective findings, the prostate should be considered as a possible offender rather than trauma.

Periodic physical examinations with attention to focal infection will aid in the improvement of general health and increased work capacity and efficiency among railroad workers.

FOOD POISONING

As pointed out by G. M. Dack in his monograph[1] on "Food Poisoning," the term is of necessity vague.

Among the common causes of gastro-intestinal upsets frequently related by the patient as coming from their food or drink, and sometimes by their doctor, as the cause of their gastro-intestinal upset, are bacteria and their products, chemicals, poisonous plants and animals, protozoa and helminths, and a miscellaneous group of illnesses, the causes of which are unknown, but quite likely due to virus infections, and commonly known as "intestinal flu."[2] Osler distinguished between the endogenous and the more common exogenous sources of food poisons.

"Ptomaine poisoning," according to Dack and others is a misnomer.[3]

Acute gastroenteritis coming on suddenly within one or several hours after eating tainted food, and with symptoms of varying severity, usually accompanied by abdominal cramps and diarrhea, and occasionally by vomiting, salivation, and severe shock may frequently be shown to be due to staphylococcus toxin, that has been built up in the food during the preparation period or before, sometimes from improper handling or storage. This type of poisoning is commonly found where the complaint arises in a number of individuals shortly after partaking of portions of the same questionable food.

Bacterial infections, such as Salmonella, Shigella, streptococcus and typhoid have a more prolonged incubation period in the body than the short period seen in staphylococcus toxin enteritis.

References

[1] Food Poisoning, G. M. Dack, Univ. of Chicago Press Publ. 1943.

[2] Epidemic Diarrhea, Nausea and Vomiting of Unknown Cause. H. A. Reimann, et al. JAMA 127:1 (Jan. 6) 1945.

[3] Ptomaine Poisoning a Myth. G. M. Dack, Indus. Med. & Surg. 18:151 (Apr.) 1949.

Water from a certified domestic source is rarely the cause of an acute gastrointestinal upset, such as is seen in staphylococcus food poisoning or in "intestinal flu."

GLASSES AND GOGGLES

All tinted or colored lenses now available for glasses or goggles are colored filters. Most colored filters reduce transmission of certain portions of the visible spectrum and impair color vision seriously.

Colored protective lenses for glasses or goggles must not be used by employes involved in the operation of trains, where duties require accurate interpretation of color signals.

It is hoped that an ideal absorptive glass for use as a protection against glare will soon be available. It will be a neutral gray, transmitting about thirty percent of all visible light and affording about equal visualization of all the colors in the spectrum.

Such lenses must be large and mounted in aviator's type frame in order to cover the entire visual field. If the individual requires refractive correction, his lenses should be ground to his prescription. Clip-on lenses over regular glasses are not permitted.

Under no circumstances should these neutral gray lenses or any tinted or colored lenses be worn at dawn, dusk, on cloudy days, or at night. They should be worn only in sunlight.

It is recommended that glasses or goggles worn by employes using hand tools, or operating power machines, etc., in shops, be made of shatter-proof glass.

HANSEN'S DISEASE (LEPROSY)

Transportation by Common Carriers of Persons Afflicted by or under Treatment for Hansen's Disease

Attention is called to the action by the Committee of Direction on this subject as reported in the Proceedings for 1917 (pps. 17-20), and discussion of the same subject in Proceedings for 1918 (pps. 71-74).

Nothing further has developed since these reports to indicate a change in the recommendations of the Committee of Direction, Medical and Surgical Section, to the Association on this subject.

It is recognized that while leprosy is considered to be a communicable disease, such communicability is of very low grade and not possible from contacts as experienced in travel of such cases on railroads. The disease is not listed among "Communicable Diseases" in the 1947 Federal Interstate Quarantine Regulations, nor in amendments thereto of 1950. While it appears that active, uncontrolled cases of the disease should be restricted in their activity for the peace of mind of uninformed contacts, treated cases in controlled stages of the disease present no hazard from contact, and should be permitted to travel within the limits prescribed and permitted by public health authorities.

HEAD INJURIES

After a blow on the head, the important thing to determine is not whether the skull was fractured but rather the extent of the injury, if any, to the brain or its vessels. The patient with a head injury should not be subjected to the movements necessary to get x-rays of the skull until it has been determined that such manipulation is safe. If the x-rays can be made without manipulat-

ing the head, they will supply additional information. The two intracranial lesions that are most important to watch for, are bleeding from the middle meningeal artery and the development of subdural hematoma. The more severe lesions of the brain structures proper are not amenable to surgical treatment.

The patient who has been rendered unconscious by a blow on the head should be watched carefully, particularly his blood pressure, reflexes, pulse, type of respiration and pupillary reactions, and general tone of the muscles of the arms and legs. The so-called "lucid interval" so long associated with middle meningeal hemorrhage, should not be depended upon entirely. A person may be rendered unconscious by concussion of the brain and by bleeding concomitantly from a ruptured middle meningeal artery. The pressure exerted by the hemorrhage will be enough to keep him unconscious so that the pupillary signs, pulse and blood pressure are the best indications of this. The subdural hemorrhage and its symptoms may be delayed. The neck should not be neglected in people with head injuries as frequently the violence of such injuries to the head could subject the neck to "whip-lash" mechanism.

HEARING DEFECTS AND TESTS

Candidates for employment in train service should not be accepted unless able to hear ordinary conversation with each ear separately, the full distance of 20 feet. No candidate for promotion or re-examination can be considered to have sufficient acuteness of hearing, who is unable to hear words or numbers spoken in an ordinary conversational tone of voice, at a distance of 10 feet with each ear separately. The use of hearing aids by railroad employes engaged in train service is not recommended.

HERNIA

Hernia is incident to and not an accident in industrial occupation. True traumatic hernia is so rare as to be almost non-existent. Inguinal hernia is a defect due to a congenital, anatomical disorder, or to developmental weakness, or to both. Neither single nor repeated exertions or injuries cause inguinal hernia. The problem of aggravation of hernia will seldom be raised if pre-employment and periodical examinations are required.

The presence of an inguinal or femoral hernia should disqualify applicants for train service or laborious work. Small asymptomatic umbilical hernia is not disqualifying. Enlarged inguinal rings in the presence of a demonstrable sac or bulging should be grounds for disqualification in the pre-employment examination. On re-examination, the presence of an inguinal hernia should be noted and treatment advised if it is complete or producing symptoms. Such employes should be operated upon if their general condition permits; otherwise a properly fitted truss may be advised. The development of a hernia suggests the need for a thorough physical survey with particular attention to the individual's gastro-intestinal and urinary tract functions. The injection treatment of hernia is not recommended.

INJURED EMPLOYE

In connection with this subject heading the following is quoted, simply as a matter of information, from the "Rules Governing Monthly Reports of Rail-

way Accidents" as issued by the Interstate Commerce Commission (effective on January 1, 1922):

"Accidents to be Reported—A reportable accident is an accident arising from the operation of a railway that results in one or more of the following circumstances:

"(a)****

"(b)****

"(c) Injury to an employee sufficient to incapacitate him from performing his ordinary duties for more than three days in the aggregate during the 10 days immediately following the accident. This rule applies to employees on duty, and to those classed as not on duty, but does not apply to employees classed as passengers or trespassers.

"(d) Injury to a person other than an employee if the injury is sufficient, in the opinion of the reporting officer, to incapacitate the injured person from following his customary vocation or mode of life for a period of more than one day. This rule applies also to employees classed as passengers or trespassers."

MALARIA

The problem of malaria in railroad employes does not appear so serious or prevalent in 1950, due to the use of newer insecticides and methods of control and newer drugs for treatment. Employes who have contracted malaria should be under treatment and observation until there is reasonable assurance that no further attacks of malarial chills will occur.

MAN-FAILURE

After investigation it has been found that a very large percentage of train accidents was due to man-failure.

For the above reason the following recommendation, which was originated by the Committee on Disability and Rehabilitation and approved by the Association of American Railroads, was made:

"Whenever investigation of any train or train service accident indicates man-failure as a causative factor—such as disregard of signal indication, disregard of or misinterpretation of train orders or rules—and suggests an impaired physical condition as a contributing cause of the failure, a medical examination directed by the Company of the employee or employees so involved is recommended."

Other recommendations made:

(1) Periodic examinations of those whose age or previous condition would indicate that these examinations should be made.

(2) Re-examination of every employe in the train and engine service when he has been absent from work for any length of time and cause whatsoever.

MENTAL AND NERVOUS DISORDERS

No mental syndrome is caused directly by railroad work.

Disorders of the central nervous system are:

Psychoses
Paresis
Paranoia

Minor functional nervous states
Epilepsies and epileptic equivalents
Organic neurological diseases
Inflammatory disease of the brain and nervous system
Paralysis agitans
Choreas—all forms
Cerebral arteriosclerosis
Other organic neurological conditions
Traumatic psychoses and neuroses
Constitutional psychopathic state
Chronic alcoholism and drug addiction
All other diseases of the brain and nervous system

Employment of a veteran of military service having a discharge account of being a mental or psychiatric case should be postponed until a transcript of the medical history is secured in writing.

Employes with any mental disorder should not be permitted to remain in positions of responsibility, or where they may become hazardous to themselves or others. This even after apparent recovery.

The following should be disqualifying for any employe who has to do with the operation of trains:

Disorientation for time or place or persons, continued
Intense narcissism or phobias
Memory loss for recent events, prolonged and continuous
Ideas of reference
Fixed or repeated transient systematized delusions
Catatonic states
Paranoiac ideas
Loss of insight and/or judgment, gradual
Moderately severe inability to adjust to reality
Emotionalism, severe, repeated
Chronic alcoholism or other intoxications with mental deterioration
Industrial and familial inadaptability due to any of the above conditions and ideas
Defects of personality—progressive
Paralyses and/or paraplegia
Marked euphoria and/or delusion of grandeur
Wanton violence and destructiveness
Tremulous, stammering, dysarthric, slobbery speech with loss of musculocutaneous sense
Moderately severe neurasthenia or hysteria, or anxiety or psychasthenia or hypochondria, which has not responded to one year's treatment
Epilepsy and epileptic equivalents
Hemiplegia, paraplegia and locomotor ataxia with mild residuals
All inflammatory diseases of brain and nervous systems with mild residuals
Paralysis agitans with beginning pill roller's tremor, mask facies with or without beginning mental changes
Choreiform syndrome any type, moderately severe, with or without psychic phenomena
Tic douloureux if persisting over six months and shown not to be amenable to treatment

Flaccid paralyses due to peripheral nerve disease or injury, affecting at least one limb

Cretinism, imbecility and middle class moronism

Migraine with no remission or short remission which have not responded to treatment for a year

Dercum's disease

Brain tumor

Syringomyelia

Subacute combined degeneration spinal cord

Amyotrophic degeneration spinal cord

Multiple sclerosis

Spinal cord tumor

Residuals of skull fracture

Herniated intervertebral disc with disabling signs

Once an employe is disqualified for service in the operation of trains due to his having developed any mental condition, said disqualification should be made permanent.

No employe who has been confined to a mental institution by court order should be permitted to return to any type of work until he has received his writ of adjudication. Until this is received he is a legal incompetent.

NARCOTIC HABITUES

Narcotic habitues are not suitable for railroad service. On both pre-employment and periodic physical examinations the examining doctor should be particularly careful to observe multiple scars of hypodermic injections throughout the body surfaces. It is most common on the arms and thighs. Most of these habitues over a period of years become mentally retarded, unstable, unreliable, and most of them acquire a method of obtaining funds to buy narcotics other than their normal income. The reason for stealing to obtain money to buy narcotics is due to the fact that they must take larger and larger doses of narcotics to get the same "bang" from the drug. It finally comes to the point where they are taking large doses to get the same reaction that previously they obtained from taking a smaller dose. As Heroin and other narcotics cost about $60.00 an ounce and addicts sometimes use this amount in one day, this is the reason why extra money must be obtained to buy drugs.

There are several methods of curing these individuals of their drug habit in both private and state and federal institutions, but it is known that many of these individuals take the "cure" only to be able to start on smaller doses again to get the same "bang." If a habitue really wants to get out of this habit and really means it he takes the cure "cold turkey." This treatment consists of locking himself in a room, throwing the key out the window, and actually going through the tortures of terrific muscle spasms and vomiting until he is relieved. When the "cure" is taken this way few return to the habit.

NEISSERIAN INFECTION (GONORRHEA)

The use of sulfa drugs in prophylaxis and treatment has largely given way to antibiotics, the most common of which seems to be penicillin.

Diagnosis should be definitely established, if possible, by microscopic examination and culture.

The patient should be observed periodically, at short intervals for the first two weeks, and several times during the next three months to confirm cure and to pick up possible complicating infections.

OBESITY

Individuals who are overweight are putting an extra amount of work on their important body functions which especially involve the heart and circulatory system with a tendency to increase blood pressure and extra work on liver and kidneys. When excessive weight is carried over a period of years, the above organs tend to become exhausted prematurely which diminishes the individual's efficiency in carrying on their work.

The problem of obesity is best managed by advising people early in life as to what their normal weight should be and for them to regulate their diet so as to keep their weight within the normal variations. It is dangerous to attempt to control weight by the use of drugs unless under competent and medical supervision.

A Time Table for Reducing and Regulating Weight was adopted by the Section in 1935, which, if observed, serves as a good guide. All roads are welcome to use it.

It is recommended that a man who permits his weight to exceed by 50% average normal weights should be restricted from duty.

No one ever got fat from eating too little.

ONE EYE

Binocular vision is essential in those persons who have to judge distances. When a person has only one eye, depth perception is destroyed and the perspective becomes erroneous, and causes a hazard.

Engineers with one-eye potential should be limited to services which they can perform safely and satisfactorily.

PERIPHERAL NERVES

Incomplete and complete sections of peripheral nerves should be repaired only under ideal conditions. When the wound is clean and the patient is seen within six hour period, repair can be attempted as a hospital procedure. If the wound is at all questionable because of contamination or possible sloughing of the skin, the nerve repair should be postponed and done as a secondary procedure under ideal circumstances. The diagnosis of peripheral nerve injury should be made pre-operatively. The possibility should be in the mind of the examiner as soon as he notices the site of the wound. All motor and sensory functions of the nerve distal to the wound are carefully examined. In this way, nerve injuries associated with the other tissue injuries will not be missed.

PHYSICAL MEDICINE

Physical medicine consists of physical agents which are considered invaluable as an aid, not only in the treatment but also in the diagnosis of injured employes. This value is directly proportional to the earliest possible time it is instituted in the therapeutic program.

Heat, massage, and exercise are the procedures most easily obtained and the simplest to administer. The early application of elastic bandages for crushed extremities has been found to cut down the period of convalescence and to diminish the percentage of probable disability. These agents are also most valuable in overcoming circulatory disturbances and maintaining and developing function.

Heat may be given in the form of hot baths, hot dressings, or dry heat as may be indicated. The value of hot water treatment in any form lies in the fact that it is a form of moist heat and the chemical content of the water is immaterial. One form of wet heat, the arm or leg whirlpool, combines motion with heat and is valuable in the treatment of extremities.

Massage along with motion in the early stages of injury is particularly useful. The usefulness depends on the intelligent choice of the following: 1) superficial stroking; 2) deep stroking; 3) kneading; 4) friction. Each particular maneuver is used for a special purpose.

Exercise consists of alternate contractions and relaxation of muscle groups. Active exercise is the only measure that is known that will increase muscle strength. Passive exercise is used when healing is not complete and a range of motion instituted so as to prevent ankylosis. Forced motion is principally used to break up joint adhesions.

The term "therapeutic exercise" is given to those exercises used on extremities whose reflex nerve arc is intact.

"Muscle re-education" is that term given to those exercises used on extremities where the reflex nerve arc is impaired or broken.

Occupational therapy is of proven value by prescribing various types of work for bringing into use muscles and joints which need exercise or rehabilitation. One of the best forms of occupational therapy is the practical application of the therapy on the man at work on his own job.

PNEUMOCONIOSIS

The Committee has defined and described the condition of pneumoconiosis, or dust disease of the lungs, and mentioned silicosis and asbestosis, as forms of the disease most interesting to railroad surgeons. Anthracosis (coal dust) and siderosis (iron dust) are mentioned as not causing serious complications.

An entrance to service examination is recommended particularly in those occupations where unusual quantities of silica or asbestos dust have been encountered or are contemplated as a routine occupational exposure. Such entrance to service examinations should include a complete occupational history, a careful physical examination, and an x-ray examination of the lungs recorded on films, for diagnosis and further record.

It is further recommended that in periodic examinations of employes, with a history of working in noxious dust, who present symptoms suggestive of dust disease:

1) X-ray examination of the lungs should be done.
2) Change in employe's occupation should be advised or considered.

POISON IVY AND POISON OAK

Inquiries have been received from several lines as to the best method of caring for susceptible section workers and telephone and telegraph linemen who have come in contact with poison ivy or poison oak. The only prevention known appears to be the avoidance of contact with such growths.

Those who have come into contact with these toxic substances should immediately scrub the exposed parts with an abundant amount of soap and water so as to remove the poison before it has opportunity of penetrating the skin.

Note—Attention is called to the A.A.R. Manual of First Aid Instructions, 1951, which states under the heading Poison Oak and Poison Ivy: "When it is known that contact with poison ivy has taken place, vigorous scrubbing of the skin with abundant soap and hot water, within first hour or two after exposure may prevent any further trouble. The same treatment, if carried out within first twenty-four hours, often results in cure. In later cases, treatment should be given by a doctor."

If practicable, clothing should be changed carefully. Oils (resins) from poison ivy or poison oak may be on the clothing from same contact, and unnecessary further spread may be made.

POISONOUS SNAKE BITE

Bearing in mind the necessity of securing the best medical attention as soon as possible for administration of anti-venom serum, supportive and anti-shock therapy, it is urgent that certain first aid measures be started immediately, as follows:

1. Apply tourniquet a few inches above the bite (proximal to wound). This must be released for 5 seconds at intervals of 15 minutes.
2. If proper type of anti-venom serum is at hand, it should be administered at once in careful accordance with directions on the package.
3. Cross cut incisions entirely through skin about ¼" deep and ¼" to ½" in length, and apply suction. Suction should be continued for at least 20 minutes out of each hour for a period of 15 hours, and the patient should not be permitted to walk or exert himself in any way.

Alcoholic beverages are harmful in snake bites.

REPEATED INJURIES ("ACCIDENT PRONE")

It is well-known that certain employes repeatedly report to the Medical Department for treatment of injuries, many of which of course are of a minor nature; whereas other employes doing the same type of work, seldom, if ever, suffer an injury. Consideration should be given to the suggestion that the Chief Surgeon's Office keep a file of employes who have suffered personal injuries on duty, where treatment for such injuries has been given by the Medical Department. Where the record shows that any employe has suffered three or more injuries in one year, the attention of his employer could be called to the fact and his work habits investigated.

SICK PASSENGERS

Passengers who become ill on a train may obtain the services of a doctor, at their own expense, by requesting the Conductor to telegraph ahead to the nearest station for aid.

SPECIAL DIETS ON DINING CARS

Special diets are individualistic. They vary considerably and with the allergic types of individuals are extremely specific. Diabetic and nephritic diets are quantitative and qualitative, which require the supervision of a highly

trained dietician. Special diets on dining cars are not workable, hence not practicable.

Any special diet is the responsibility of the passenger and should be selected by him from the regular menu.

SPRAY PAINTING

Complaints of employes engaged in spray painting are apparently chiefly those of irritation of the skin, respiratory passages, and, occasionally, eyes.

There are a number of protective creams on the market, which can be applied to exposed skin areas before going on duty, that not only protect the skin from irritation, but render any paint that gets on the skin easily removable by soap and warm water.

When spraying in confined or improperly ventilated places, the employe should wear protective respirator. In some instances, in a very small confined space provided with only one opening for ventilation, a mask provided for supplying forced air from the outside is recommended.

Goggles with easily cleaned lenses should furnish adequate protection for the eyes.

SYPHILIS

Applicants for employment in the operation of trains and in dining car service should be rejected who have clinical evidence of syphilis or a positive blood. Blood tests should be taken routinely.

Periodic examinations of employes should include examination for active manifestation of syphilis.

All employes with primary or secondary syphilis should be removed temporarily from the service and receive treatment. Latent syphilitics should have a thorough physical examination, including spinal fluid tests, and treatment discussed.

Manifestation of cerebrospinal syphilis is an indication for retirement. Employes with locomotor ataxia should be placed in non-hazardous positions.

Arrested cases of neurosyphilitics should not be returned to unrestricted train service.

Persons receiving intensive treatment should be carefully reexamined later and the results of these treatments evaluated.

TETANUS

In wounds of a type where tetanus contamination is likely, prophylactic treatment may be given by one or more of the following methods: (1) in wounds grossly contaminated with street dirt, the use of tetanus antitoxin is generally considered advisable; (2) in individuals who have been previously immunized by tetanus toxoid, a booster dose of tetanus toxoid is indicated; (3) at the present time it appears that the antibiotics afford the individual adequate protection against tetanus in the average wound. The use of antibiotics as a preventative measure carries less danger of untoward reaction than does the use of tetanus antitoxin.

TROPICAL DISEASES

In 1948 the Committee stated, "Tropical Diseases have probably been worked out to a better degree, three years after the World War in the Pacific, than they were a year ago. The vast majority of those men involved in the tropics have returned. They again have adjusted themselves to whatever treatment is necessary for them in this climate. One, of course, must be on the lookout for recurrences at any time."

TUBERCULOSIS

The incidence of tuberculosis is no greater in railroad employes than in others; in fact, statistics show it to be less prevalent than in employes of many other major industries. It is recognized that tuberculosis is a major health problem.

Attention is called to the possibility of tuberculosis in clerical groups of employes as in other types of employment, and it is recognized that where such employes in clerical groups as in others appear to be below standard they should be examined to determine their physical state, having in mind the possibility of a tuberculous infection.

It is recommended that an employe who has active tuberculosis, and manifests it in his sputum or by other accepted findings, should be relieved from duty, because of the danger of transmitting the disease to others and because the effort on the part of the employe to continue work may interfere with proper treatment and recovery.

It is recommended that such employe be permitted to resume work only when, after thorough examination, he is found to be so far recovered that there are no clinical or x-ray signs of active pulmonary disease and the sputum is consistently free from tubercle bacilli, the case classed as arrested, and the sufferer deemed to be non-infectious to others.

It is further recommended that the tuberculous individual, after returning to service, should be reexamined at definite intervals, as a precaution against progression of the disease and to protect the health of other individuals.

It is suggested that all active manifestations of tuberculous disease be in abeyance one year before a railroad employe be considered for reemployment in selected occupations, assuming that no other physical disqualifying conditions are present.

TYPHOID FEVER AND PARATYPHOID FEVER

While typhoid fever has largely been controlled in the United States through the control of water and food supplies, small scattered epidemics continue to appear, particularly in the summer months. (Public Health Reports 65; 1171 Sept. 8, 1950.)

Paratyphoid fever and other related enteric diseases (Salmonella infections) are still quite common and may appear in epidemic form.

The Committee agrees that individuals suffering from these enteric diseases should not be employed as food handlers during the period of illness nor before repeated negative stool and urine cultures are obtained.

Family contacts of such cases should not be employed as food handlers during the period of contact nor before repeated negative stool and urine cultures

are obtained. (See Manual—Control of Communicable Diseases. American Public Health Association, publ. 7th Ed., 1950.)

VARICOSE VEINS

Varicose veins are due to defective valves and are not the result of trauma to the lower extremity. The presence of superficial dilated tortuous veins is not necessarily disabling providing the deep circulation is intact. Employes with advanced varicosities will do well to wear an elastic bandage or stocking for the purpose of protecting the thin skin over the vein against abrasions and also, to support the capillary bed of the skin and thus prevent, or at least postpone, the onset of congestive dermatitis and ulceration. Ligation of the superficial system at the groin, at the knee or at other levels, is an accepted form of treatment, is done under local anesthesia and does not disable the patient for any length of time.

WEED KILLING COMPOUNDS

Operators using arsenate of lead or other toxic compounds should use due care.

THE CHAIRMAN: I want to thank you very much, Dr. Stack, for your report. I am sure we have all benefitted from the general discussion and review.

Next on the program is a progress report on the activities of the Joint Committee on Railway Sanitation, by Dr. Graham.

(Dr. Robert M. Graham, Director, Department of Medicine and Sanitation, The Pullman Company, Chicago, Illinois, read his prepared report as follows.)

Report to Medical and Surgical Section on A.A.R. Sanitation Research and Development

Representatives of the Medical and Surgical Section on the Joint Committee on Railway Sanitation

Dr. R. M. Graham (Chairman), Director, Department of Medicine and Sanitation, The Pullman Company, Chicago, Illinois.

Dr. M. B. Clayton, Chief Surgeon, Southern Railway System, Washington, D. C.

Dr. A. M. W. Hursh, Chief Medical Examiner, Pennsylvania Railroad, Philadelphia, Pennsylvania.

By Dr. R. M. Graham,
Director, Department of Medicine and Sanitation
The Pullman Company

Your speaker had the honor of being named Chairman of the A.A.R. Joint Committee on Railway Sanitation on the retirement last November of the former Chairman, Mr. E. P. Moses.

You will recall this committee is composed of three representatives of the Medical & Surgical Section, together with three representatives each from the Engineering Division and the Mechanical Division of the A.A.R.; and, in addition, are three representatives of the U.S. Public Health Service, one from the Department of National Health & Welfare of Canada, and the Secretary, who is also the Secretary of our Medical & Surgical Section.

Since our report to you last year, some progress has been made in the establishment of the Research & Development Office, under a Director, Mr. R. S. Glynn, at the A.A.R. Research Laboratories, in Chicago.

A recent brochure, published by the Association of American Railroads in March 1952 on Research Progress, describes some of the research activities by the Association that are under way, among which are several projects for the Office of Sanitation & Development. Among them are further consideration of toilet waste controls, garbage grinding units for dining cars, drinking water facilities and supplies, and other environmental sanitation problems of railroad servicing areas.

The U.S. Public Health Service has finally completed publication in 1951 of three Handbooks on the subject of sanitation of: Railroad Passenger Car Construction (Publication No. 95), Railroad Servicing Areas (Publication No. 66), and Dining Cars in Operation (Publication No. 93), which were mentioned in our report last year.

These handbooks are designed to supersede the Sanitation Manual for Land & Air Conveyances Operating in Interstate Traffic, promulgated by the U.S.P.H.S. in 1943, and the Standard Railway Sanitary Code of 1920 and 1924 in so far as the items in the new handbook cover the items in the previous manual and code.

Copies of these handbooks have been sent to the Operating Department Member Railroads, and it is probable that many of you have already seen one or more of them. Additional copies may be obtained at small cost from the Superintendent of Documents, Government Printing Office, Washington.

A new issue of the federal Interstate Quarantine Regulations was published by the U.S. Public Health Service in March 1951 which includes some rewording and several amendments to the Regulations as issued by the Service in 1948. Such amendments are reflected in the interpretations by the Service in the Sanitation handbooks put out by them last year.

(There followed a brief off-the-record discussion in connection with this Report.)

THE CHAIRMAN: Thank you, Dr. Graham. We will now go on to the next order of business, which is the Report of the Committee on Nominations, Dr. O. H. Horrall, Chairman.

I believe Dr. Horrall is not here. Dr. Neupauer, are you on that Committee? Could you give us the recommendations of the Committee?

(Dr. A. Neupauer, Chief Medical Officer, Reading Company, then read the ballot for election of Members to the Committee of Direction. The ballot and the transactions covering the appointment of Tellers and election of Members are included at the rear of these Proceedings.)

THE CHAIRMAN: As we are a little ahead of schedule, I will call on Dr. B. W. Stockwell, Chairman of the Committee on Trauma, and Chief Surgeon, Grand Trunk Western Railway, to present at this time the Report of his Committee.

(Dr. Stockwell then presented his Committee's Report as follows.)

(Circular No. M & S-305)

ASSOCIATION OF AMERICAN RAILROADS

MEDICAL AND SURGICAL SECTION

REPORT OF COMMITTEE ON TRAUMA

Dr. B. W. Stockwell (Chairman), Chief Surgeon, Detroit and Toledo Shore Line Railroad.
Dr. Ralph G. Carothers, Chief Surgeon, Cincinnati, New Orleans and Texas Pacific Railway.
Dr. Duncan Eve, Chief Surgeon, Nashville, Chattanooga and St. Louis Railway.
Dr. C. F. Holton, Chief Surgeon, Central of Georgia Railway.
Dr. J. Huber Wagner, Chief Surgeon, Bessemer and Lake Erie Railroad.

Chicago 5, Illinois, March 31, 1952

TO THE MEDICAL AND SURGICAL SECTION:

At a meeting of the Committee of Direction of the Medical and Surgical Section on December 11, 1951, it was voted to change the name of the Committee on Fractures to the Committee on Trauma. This change was made to broaden the field and increase the usefulness of the committee. As most of you are aware, the former Committee on Fractures of the American College of Surgeons has in recent years changed its name to the Committee on Trauma, and the Chairman and members of that committee feel that the value of its work has been increased by this change in name.

The Committee of Direction further suggested that the committee consider the coordination of our reports with those of the Committee on Trauma of the American College of Surgeons. The committee feels that this is an excellent suggestion and we are initiating the plan with our report this year. It has been very helpful to have two members of our Medical and Surgical group that are members of the Committee on Trauma of the American College of Surgeons, under the Chairmanship of Dr. Robert H. Kennedy, at New York. These men are Dr. J. Huber Wagner, Chief Surgeon of the Bessemer & Lake Erie Railroad, who is also a member of our Committee on Trauma, and Dr. James K. Stack, Chief Surgeon of the Chicago and North Western Railway.

The committee would like to call attention to a brochure entitled AN OUTLINE OF THE TREATMENT OF FRACTURES, by the Committee on Trauma of the American College of Surgeons, the fourth revised edition of which was published in 1949. This outline brings out the general principles in connection with the treatment of fractures, which we heartily endorse and recommend to the Medical and Surgical Section. This manual can be obtained from the American College of Surgeons at a cost of fifty cents per copy, which covers the preparation and mailing only and does not give any profit to the College.

The report of the committee this year is on a subject which we feel to be of great importance. It consists of a bulletin on THE CARE OF HAND INJURIES, which was prepared by the American Society for the Surgery of the

Hand, and distributed by the Committee on Trauma of the American College of Surgeons, through its regional committees. The proper care of hand injuries will greatly reduce permanent loss of function and do much to get the injured employee back to work quickly.

This report will be discussed by Dr. Ralph G. Carothers, Chief Surgeon, Cincinnati, New Orleans and Texas Pacific Railway; Dr. Duncan Eve, Chief Surgeon, Nashville, Chattanooga and St. Louis Railway, and Dr. J. Huber Wagner, Chief Surgeon, Bessemer & Lake Erie Railroad.

I **Protection of the Hand** (Summary)

The first-aid care of wounds of the hand is directed fundamentally at protection. It should provide protection from infection, from added injury, and from future disability and deformity. The best first-aid management consists in the application of a sterile protective dressing, a firm compression bandage and immobilization by splinting in the position of function.* No attempt should be made to examine, cleanse, or treat the wound until operating room facilities are available.

II **Requirements of Early Definitive Treatment** (Summary)

Early definitive care requires thorough evaluation of the injury with respect to its cause, time of occurrence, status as regards infection, nature of first-aid treatment and appraisal of structural damage. For undertaking the definitive treatment the conditions required are a well-equipped operating room, good lighting, adequate instruments, sufficient assistance, complete anesthesia, and a bloodless field. Treatment itself consists of aseptic cleansing of the wound, removal of devitalized tissue and foreign material (exercising strict conservation of all viable tissue), complete hemostasis, and the repair of injured structures, to be followed by protective dressing to maintain the optimum position. After-treatment consists of protection, rest and elevation during healing, and early restoration of function by directed active motion.

III **Surface Injuries** (This is a *separate* subject which will be presented at some time in the future.)

IV **Lacerated Wounds**

Lacerations may damage skin, fat, fascia, muscles, tendons, tendon sheaths, blood vessels, nerves and, more rarely, joint or bone. The treatment of such injuries has four objectives:

1. Protection from infection.
2. Restoration of structures.
3. Avoidance of deformity.
4. Early restoration of function.

These objectives are furthered by proper first-aid care, as outlined in I **(Protection of the Hand)** and by definitive treatment.

A—Definitive Treatment

To be undertaken only under the proper conditions and according to the principles outlined in II **(Requirements of Early Definitive Treatment.)** Careful history of the injury should be followed by examination of the hand to determine:

* Position of function or position of grasp: wrist hyperextended in cock-up position, fingers in mid-flexion and separated; thumb abducted and in mid-flexion, with tip pointing toward little finger.

(1) Location and extent of the wound.
(2) Source of major bleeding.
(3) Presence of foreign material.
(4) Function of tendons, to be tested against resistance.
(5) Function of intrinsic muscles.
(6) Condition of nerves as regards both sensory and motor functions.
(7) Integrity of bone and joint.

Following anesthetization of the patient and application of hemostatic blood pressure cuff (not to be inflated above 300 mm), definitive treatment of the wound consist of:

(1) Thorough cleansing of wound region and then of entire hand and forearm with soap and water or bland detergent.
(2) Removal of foreign material from the wound.
(3) Careful, gentle, thorough, but conservative excision of devitalized tissues, sparing all structures that may survive.
(4) Repeated cleansing of wound by irrigation with warm normal saline solution.
(5) Securing and ligation of divided blood vessels.

These general measures are followed in appropriate cases by repair of damaged structures. Proper wounds for this repair are:

(1) Those in which infection has not become established.
(2) Those not grossly contaminated by highly infective material.
(3) Relatively clean wounds not more than three or four hours old.

In general, wounds not fulfilling these criteria are better left unrepaired to await secondary closure and later reconstructive surgery. They should, nevertheless, be as carefully cleansed of foreign matter and dead tissue as are those prepared for primary closure. In such cases severed nerve ends may be identified with nonabsorbable sutures or lightly united.

Repair of damaged structures:

(1) Nerves
   a. All severed nerves should be repaired, including the digital nerves.
   b. Fine arterial silk on fine needles should be used, accurately approximating the nerve ends by small interrupted sutures placed around the periphery. These sutures should include only the perineurium, not the nerve bundles. It is important to avoid axial rotation, particularly in nerves having both motor and sensory function.
   c. Nerves are to be distinguished from tendons, especially at the wrist, by their anatomical position, softer texture, pinker color, small surface capillaries, and distinct nerve bundles seen on cut ends. Pulling on a nerve will not flex a finger.
   d. Nerves should be handled gently, never crushed, rubbed, or allowed to become dry.

(2) Tendons

a. All severed tendons should be repaired, including the tendons of intrinsic muscles.

An important exception to this rule concerns flexor tendons severed within the flexor sheath or in the digital flexor canal. Primary suturing of the flexor profundus in this location rarely succeeds in restoring useful function even if the flexor sublimis is removed. Suturing both flexor sublimis and profundus in this area almost invariably results in failure. Should even minor infection occur, failure is assured. With rare exceptions, it is sound practice to repair the skin and digital nerves only, leaving the flexor tendons for secondary reconstruction when severed in this region.

b. Nonabsorbable sutures of silk or wire are used accurately to approximate the severed tendon ends after they have been cleanly squared off with a sharp knife.

c. Additional incisions to secure retracted tendon ends should follow flexion creases. They should be curved or transverse, never longitudinal, and never in the palmar or dorsal midline of a finger.

d. Tendons should be handled gently; never crushed, rubbed, or allowed to become dry.

(3) Muscle

a. Severed muscles should be lightly approximated with interrupted mattress sutures, avoiding tension and constriction.

b. Muscle thus repaired should be alive, contractile and vascular, all devitalized shreds being trimmed away.

Following these procedures, the hemostatic blood pressure cuff is released to permit identification, control and ligation of bleeding vessels. The field should be dry before closure of the wound.

(4) Fascia

Severed fascial and ligamentous tissue should be repaired with interrupted mattress sutures, avoiding tension.

(5) Subcutaneous tissue

Subcutaneous fatty tissue may be lightly approximated with interrupted fine sutures.

(6) Skin

The skin should be closed with fine, nonabsorbable sutures.

(7) Dressing

Firm pressure dressing is applied, the fingers being separated, with gauze between them. The hand is immobilized by splinting in the position of function, except when suture of severed tendons requires splinting in a position to insure the least strain on their suture lines. If nerves have been severed, the position of function is particularly important to prevent deformity due to contracture of active muscles when their opponents are denervated and paralyzed.

B—Aftercare

(1) Antibiotics and tetanus antitoxin (or toxoid) are administered systemically as prophylaxis against infection.

(2) The extremity is kept elevated for the first three or four days.

(3) Dressings are not removed for several days, usually one week, unless infection develops.

(4) The healing of severed tendons and nerves requires three weeks of uninterrupted immobilization.

(5) When nerves are severed, corrective splinting is necessary until reinnervation of paralyzed muscles has occurred.

(6) Restoration of function is best secured, after healing, by directed voluntary exercise and appropriate occupational therapy.

Respectfully submitted,

COMMITTEE ON TRAUMA,
B. W. STOCKWELL, M. D., Chairman.

(There followed on off-the-record discussion covering this Report.)

THE CHAIRMAN: Gentlemen, we will now adjourn for lunch and reconvene promptly after the luncheon for the afternoon session.

(The meeting recessed at 11:55 o'clock.)

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At the Annual Informal Luncheon held at the Drake Hotel, at 12:30 P.M., Mr. Kenneth B. Hawkins, Attorney, Chicago, Illinois, presented a paper on "The Trial of William Orpet," which proved of considerable interest to all and was particularly well received. At the conclusion, the Chairman extended thanks to Mr. Hawkins on behalf of all present.

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SECOND SESSION

Monday Afternoon, March 31, 1952

The meeting reconvened at two-forty o'clock, Dr. Hansen presiding.

THE CHAIRMAN: We gained a little time this morning, and we lost it at lunch, so I think we are about even. We will now go on with the afternoon session.

Item Number 11 is the Report of the Committee on Developments Resulting from Physical Examinations, Dr. Richard J. Bennett, Chairman.

Dr. Bennett, will you present your Committee's Report, please?

(For ready reference, Circular No. M & S-300, Report of Committee on Developments Resulting from Physical Examinations dated December 11, 1951, is reprinted here, as follows.)

Circular No. M&S-300
(Superseding Cir. No. M&S-216 Dated May 31, 1939)

ASSOCIATION OF AMERICAN RAILROADS

MEDICAL AND SURGICAL SECTION

REPORT OF COMMITTEE ON DEVELOPMENTS RESULTING FROM PHYSICAL EXAMINATIONS

Chicago 5, Ill., December 11, 1951

TO THE MEDICAL AND SURGICAL SECTION:

In accordance with action taken by the Committee of Direction, your Committee on Developments Resulting from Physical Examinations met in Chicago, Illinois, on January 6th, 1951, to draft a revision of Circular No. M&S-216, dated May 31, 1939, containing "Regulations and Requirements Governing Physical Examinations, Including Sight, Color Sense and Hearing Tests, for Entrance to Service, Promotion, Periodic and Special Examinations with Method of Conduction."

The "Regulations and Requirements" referred to were originally approved in 1925. Under date of May 31, 1939, and as a result of experience arising from the application of the standards referred to, Circular No. M&S-216 was issued on behalf of the Association and contained the recommended "Regulations and Requirements" as revised at that time.

In light of further suggestions and study of these recommendations, they have now been further revised as covered herein, and this revision has been approved by the Medical and Surgical Section at its Annual Meeting in Chicago, Illinois, April 2, 1951, and subsequently by the General Committee Operating-Transportation Division, A. A. R.

Respectfully submitted,

COMMITTEE ON DEVELOPMENTS RESULTING FROM PHYSICAL EXAMINATIONS,
R. J. BENNETT, JR., M.D., Chairman.

Regulations and Requirements Governing Physical Examinations, Including Sight, Color Sense and Hearing Tests, for Entrance to Service, Promotion, Periodic and Special Examinations, With Method of Conduction.

GENERAL RULES

1. Applicants for employment in connection with the handling of engines, trains, or marine equipment as enumerated below, and also applicants for such other positions as may be designated from time to time by the railroad management, must pass a satisfactory physical examination before entering service, including an examination of sight and hearing. Applicants for positions in train service, and all other employes who, by reason of their occupation, are required to interpret color signals, must also pass a satisfactory examination on colors.*

Class A. Engineers, Firemen, Motormen, Motormen's Helpers, Conductors, Train Flagmen, Train Baggagemen, Switchmen, Brakemen, Train Porters and all others who have any duties in connection with the operation of trains.

Class B. Signal Repairmen, Lampmen (Signal), Yardmasters, Carpenters on line work, Hostlers, Station Baggagemen, Railroad Crossing Watchmen, Bridge Watchmen, Wreck Foremen, Track Foremen, Messengers whose duties involve danger from moving trains, Chauffeurs, Derrick Engineers, Crane Operators, Train Dispatchers, Switch Tenders, Interlocker Levermen, Telegraph Operators, Student Operators and all other employes whose duties may involve the reading or display of signals in connection with the operation of trains. Marine Service—Captains, Mates, Pilots, Quartermasters, Bridge Foremen, Bridgemen, Bridge Motormen, and Engineers, Engineers and Firemen and others whose duties may involve navigation.

Class C. Car and Engine Inspectors, Ashpitmen, Air Brake and Steam Heat Inspectors, Weighmasters, Car Repairmen, Street Crossing Watchmen, Police Lieutenants, Patrolmen, Yard Clerks, Station Agents, Clerks to Station Agents, Baggage Agents, Ticket Examiners, Ushers and Telegraph Repairmen.

2. Examinations and re-examinations may be ordered at any time by proper authority.

All entrance-to-service employes should have a laboratory blood test for syphilis.

All employes entering railroad service should have pre-employment examinations.

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*Proper records of all examinations should be maintained. (To prevent substitution the applicant must sign his name before the examining surgeon, who will compare such signature with the previously signed application made by the applicant before the employing officer. The data in the application form can also be made a check by questioning the applicant as to age, date of birth, last occupation, etc.)

3. Physical examinations shall not be made immediately following subjection to unusual fatigue.

4. Employes engaged in engine, train or signal service including train dispatchers and such others as may be designated from time to time by the railroad management, must pass a satisfactory physical examination or re-examination, including an examination of sight and hearing (and also an examination on colors if the employes are required to read signals) at least every two years or at more frequent intervals if required by law or otherwise. It is recommended that such employes should be re-examined every year from 50 to 65 and every six (6) months after 65.

5. Before an employe is permanently relieved from his regular duty or his occupation changed as a result of periodical examination made by the Examining Physician, his case shall be reviewed by the Chief Medical Officer or his representative whose decision shall be final unless other arrangements are made.

6. Employes mentioned in Rule 4 who have physical defects that may tend toward sudden incapacity, shall be examined at such intervals as may be determined by the Chief Medical Officer.

7. All employes mentioned in Rule 4, who upon examination for promotion or when periodically examined, are found to have a blood pressure of over 175 and less than 200 systolic, with a diastolic above 100 and below 120 shall be kept under observation. It is recommended that employes in the above classification with systolic blood pressure of 200 or over or a diastolic of 120 or over be held out of service pending further investigation, and should be returned to service only with the approval of the properly designated Medical Officer.

8. Employes who have been disabled by reason of accident or disease which predisposes them to sudden incapacity, or whose sight, color sense or hearing may have thereby become affected, must pass a satisfactory examination before resuming duty.

An employe with or may develop should be removed from service until he presents satisfactory evidence of recovery without residual damage.

All employes, except clerks, who have been injured off duty or who have been absent on account of sickness for over thirty (30) days should be re-examined before resuming duty. The employe should be requested to furnish the railroad examiner with a satisfactory medical report from his attending doctor covering his disability.

9. Employes promoted to any of the positions covered by Rule 4 are required to undergo a physical examination, including sight and hearing; and in addition, such employes who by reason of their occupation are required to interpret color signals must also pass a satisfactory examination on colors.

When the physical examination of an applicant for promotion gives evidence of syphilis a confirmatory laboratory test shall be made. Findings should be handled as indicated.

10. Applicants for employment in positions requiring examination of sight, color sense and hearing, should first undergo this examination and in case of failure, the physical examination need not be continued. Em-

ployes undergoing periodical re-examinations should be given complete physical examination notwithstanding failure of sight, color sense or hearing.

11. When employes re-examined for promotion, periodically or by special examination, are found to have any disqualifying defects, a full report shall be made to officer to whom the examiner reports.

12. In order to prevent undue hardship to an employe in service, and recognizing the increased value of such employe because of his experience and familiarity with duties to be performed, the causes for rejection as hereinafter set forth, shall not apply in re-examination, except insofar as the disabilities found on re-examination are such as to interfere with the proper performance of his duties, or with the safety of himself or others.

13. The standards as recommended are minimum but if any member has in effect higher standards than shown herein, it is recommended that such higher standards be maintained.

Rules Governing Examinations of Sight, Color Sense and Hearing

The following rules and instructions apply to applicants for employment and to all employes who are required to undergo sight, color sense and hearing examinations as outlined in preceding general rules.

1. All examinations of sight, color sense and hearing shall be made by physicians.

2. Examinations must develop:
   (a) Sufficient acuteness of vision to see clearly the prescribed visible signals.
   (b) Ability to distinguish colors accurately and promptly.
   (c) Ability to hear distinctly.

3. Employes who are defective in color perception must not be employed in positions that require them to use signals or to determine the color of signals.

4. Employes who have defects in vision that can not be corrected with glasses to meet prescribed standards, and employes who are defective in hearing must not be employed in positions where their defects will prevent the efficient and safe performance of their duties.

5. Employes whose vision requires the use of glasses to meet the standard and whose duties necessitate the reading of signal indications must, while on duty, wear such glasses. Employes requiring glasses for distant vision must have with them while on duty two pairs of the required glasses. Where glasses are required for both distant vision and reading, two pairs of distant spectacles and one pair of reading glasses or two pairs of bifocal spectacles must be carried. Where glasses are necessary for reading only, one pair of glasses (any type) will be satisfactory, but if of the nose glass type they must be attached to the person by proper guard. The employe must be examined with each pair of glasses.

Goggles worn with corrective lenses must be of the rigid type frame.

An employe whose vision in one eye falls below the required standard (for example, loss of vision in one eye) shall have a special examination by the company oculist and the management shall then determine whether

the employe can be provided with employment where his services will not produce an extra hazardous condition.

ACUTENESS OF VISION

Method of Testing. All visual examinations shall be made with standard test type. Place the candidate to be examined twenty feet from the test cards, cover one of his eyes with a card, avoiding pressure on the eyeball, and direct him to read the letters on certain lines as shown by the examiner. If he reads the letters on the line marked twenty, it indicates normal vision. If he can not read the letters on the line marked twenty, direct him to read the lines above twenty successively until a line is found which he can read.

Record in fractions the acuteness of vision as determined, the numerator being 20 (the distance in feet at which the examinee is placed) and the denominator the line read.

Mistakes of not more than three letters on the 20/20 line, two letters on the 20/30 line and one letter on the 20/40 line will be considered as satisfactory reading, the examiner indicating by —3, —2 or —1, after the denominator, the numbers of letters missed. In examining for visual perception, the examiner should use every means to prevent applicants from memorizing the letters. This may be done by varying the order in which the lines are read, or by asking the applicants to read certain lines from right to left instead of from left to right.

READING CARD TESTS

Direct the candidate to read certain words, sentences or figures from the standard American Railway Association reading test card, with each eye separately, and record the smallest sizes of print read correctly at the ordinary distance of from 14 to 18 inches. The applicant should be able to read the print in paragraph No. 3 of the standard card to pass the test satisfactorily.

Equipment. A simple apparatus which prevents memorizing of the letters of the cards and by its lighting arrangement more clearly simulates bright daylight, thus permitting its use under all circumstances, and which has ease of operation, together with a low cost, and arranged so that the cards are not soiled by handling, is desirable.

Any generally accepted method of testing the acuteness of vision will be satisfactory.

ACUTENESS OF VISION—REQUISITES

Class A. Enginemen, Firemen, Motormen, Motormen's Helpers, Conductors, Train Flagmen, Train Baggagemen, Switchmen, Brakemen, Train Porters and all others who have any duties in connection with the operation of trains.

Entrance to Service	Promotion	Re-Examination of those in the service
20/20 in each eye tested separately, without glasses, and with binocular single vision.	20/20 in one eye and not less than 20/30 in the other, with or without glasses, and with binocular single vision.	20/30 in one eye and not less than 20/40 in the other, with or without glasses, and with binocular single vision.
For near vision—read print in paragraph No. 3 of A.A.R. Standard Reading Card, without glasses.	For near vision—read print in paragraph No. 3 of A.A.R. Standard Reading Card, with or without glasses.	For near vision—read print in paragraph No. 3 of A.A.R. Standard Reading Card, with or without glasses.

If an employe in Class A, on examination for promotion or on re-examination is found to have a vision of 20/70 or less in each eye, without glasses, even though his vision can be brought up to the standard above set forth, by glasses, he must be examined by an oculist designated by the company, for recommendations as to whether his vision will interfere with the performance of his duties or with the safety of himself or others.

Class B. Signal Repairmen, Lampmen (Signal), Yardmasters, Carpenters on line work, Hostlers, Station Baggagemen, Railroad Crossing Watchmen, Bridge Watchmen, Wreck Foremen, Track Foremen, Messengers whose duties involve danger from moving trains, Chauffeurs, Derrick Engineers, Crane Operators, Train Dispatchers, Switch Tenders, Interlocker Levermen, Telegraph Operators, Student Operators and all other employes whose duties may involve the reading or display of signals in connection with the operation of trains. *Marine Service*—Captains, Mates, Pilots, Quartermasters, Bridge Foremen, Bridgemen, Bridge Motormen and Engineers, Engineers and Firemen.

Entrance to Service	Re-Examination of those in the service
20/20 in one eye and not less than 20/40 in the other, with or without glasses, and with binocular single vision.	20/40 in one eye and not less than 20/50 in the other, with or without glasses, and with binocular single vision.
For near vision—read print in paragraph No. 3, of A.A.R. Standard Reading Card, with or without glasses.	For near vision—read print in paragraph No. 4, of A.A.R. Standard Reading Card, with or without glasses.

Class C. Car and Engine Inspectors, Ashpitmen, Air Brake and Steam Heat Inspectors, Weighmasters, Car Repairmen, Street Crossing Watchmen, Police Lieutenants, Patrolmen, Yard Clerks, Station Agents, Clerks to Station Agents, Baggage Agents, Ticket Examiners, Ushers and Telegraph Repairmen.

Entrance to Service	Re-Examination of those in the Service
20/30 in one eye and not less than 20/40 in other, with or without glasses.	20/40 in one eye and not less than 20/50 in the other, with or without glasses.
For near vision—read print in paragraph No. 3, of A.A.R. Standard Reading Card, with or without glasses.	For near vision—read print in paragraph No. 5, of A.A.R. Standard Reading Card, with or without glasses.

All applicants for employment, not mentioned in Class A, B or C, must meet the visual requirements for a re-examination of Class C.

PHYSICAL EXAMINATIONS

Method of Examination.

The applicant or employe is required to remove sufficient clothing to permit of a proper examination, the examination to take place behind a screen or in private quarters. All new employes should be completely stripped, including shoes and socks, at examination. The examinee is to stand in a bright light and present successively front, back and sides.

Evidences of the following should be looked for: Abnormalities or diseases of the eyes, ears, nose and mouth, retarded development (mental or physical), deformity or assymmetry of body or limbs, spinal curvatures, emaciation, cutaneous or other external diseases, glandular swellings or other tumors, nodes, varicosities, cicatrices, indications of medical treatment, such as blister, stains, cauterizations and scars from administration of injections. Evidences and effects of former injuries and operations should be noted. The hands and feet and the various joints of the body should be carefully examined to determine their functional efficiency. The chest should be examined by inspection, palpation, percussion and auscultation, both anteriorly and posteriorly, for tuberculosis and other lung, pleural, pericardial or mediastinal conditions, and valvular and other diseases of the heart. Check blood pressure and note heart action and respiration before and after exercise. The examiner should carefully inspect the abdomen and note abnormalities. While the patient is coughing strongly, he should examine the umbilical, femoral and inguinal regions in order to determine the presence or absence of actual or potential herniae. Any enlargement of the various canals should be noted. Inspection should be made of the genitalia for venereal scars, varicocele, orchitis, urethral discharge, and other abnormal conditions.

The buttocks should be separated for the detection of hemorrhoids, prolapses, fissures and fistulae.

The applicant should be thoroughly interrogated relative to his past medical history.

There should be maximum and minimum height and weight standards for new train and engine employes.

Minimum and maximum blood pressure standards for new employes: It is recommended that an applicant for railroad service should not exceed a maximum systolic blood pressure of 150 or a minimum systolic of 100, and a minimum diastolic blood pressure of 60 or a maximum diastolic of 90.

Recording of Physical State.

Physical examination should be made of all applicants for employment. The examination should be accurate and thorough, recording negative as well as positive findings. The extent of the examination depends on the standards defined for the various services. The report form should cover the examination for entrance into the service, promotion, return to service, and periodic examinations.

Height	Age
Weight	Eyes
Hair	Colored
Nationality	White

Occupational History

Former dust or other hazard?

Physical State

Appearance.

Vaccination.

Narcotic habitues should be disqualified.

Special attention should be given to constitutional diseases including diabetes.

Weight (Height)

Compared with height and age.

"IDEAL" WEIGHT TABLE

Based on Maximum Longevity

Ideal Weights for Men. Ages 25 and over.

Height (With Shoes)		Weight in Pounds (As Ordinarily Dressed)		
Feet	Inches	Small Frame	Medium Frame	Large Frame
5	2	116-125	121-133	131-142
5	3	119-128	127-136	133-144
5	4	122-132	130-140	137-149
5	5	126-136	134-144	141-153
5	6	129-139	137-147	145-157
5	7	133-143	141-151	149-162
5	8	136-147	145-156	153-166
5	9	140-151	149-160	157-170
5	10	144-155	153-164	161-175
5	11	148-159	157-168	165-180
6	0	152-164	161-173	169-185
6	1	157-169	166-178	174-190
6	2	163-175	171-184	179-196
6	3	168-180	176-189	184-202

(Above Table from Metropolitan Life Insurance Co.)

CAUSES FOR REJECTION OF APPLICANTS FOR EMPLOYMENT

General Medical Conditions

1. Diabetes Mellitus.
2. Severe malnutrition.
3. Pellagra.
4. Avitaminosis and other severe nutritional conditions.
5. Osteitis fibrosa cystica.
6. Tetany.
7. Addison's disease.
8. Froehlich's syndrome.
9. Simmond's disease.
10. Hyperthyroidism.
11. General debility.
12. Combination of three or more chronic conditions, which individually are not disqualifying, but which when together cause general debility, anemia, circulatory and/or mental infirmity.
13. Acute systemic diseases, such as infectious fevers.
14. Marked overweight or underweight, taking into consideration height and age.
15. Generalised or localized lymphadenitis.

The Eyes—Loss of eye, total loss of sight of either eye, trachoma, entropion, opacities of the cornea, if covering part of a moderately dilated pupil, strabismus of low visual acuity, pronounced exophthalmos, conical cornea, cataract, loss of crystalline lens, pronounced entropion, pronounced diseases of the lachrymal apparatus, symblepharon, tumors, abscess of the orbit, nystagmus, pronounced asthenopia, glaucoma, color blindness (in certain occupations), diplopia and loss of pupilary reflexes to light, gun barrel vision, hemianopsia or loss of depth perception.

—Color Vision—

A test for the detection of color defects should be one which can be carried out as rapidly as possible with maximum efficiency. The Holmgren wool test or any standard modification have historically been very reliable. Several lantern tests have been devised which are also reliable. The Ishihara (color plate) test, which was modeled after the Stillings test, is rather accurate. There are several modifications of this test but the colors are apt to vary with the printing of the color plates.

Color plate tests are favored; lantern tests also are reliable.

Field tests are not reliable and therefore are not recommended.

The Ears—Deafness of one or both ears, all catarrhal and purulent forms of acute and chronic otitis media, disease of the mastoid cells, and moderate continued dizziness and/or vertigo.

—Aural Test—

Method. Place the candidate at a distance of 20 feet with one ear towards the examiner, plugging the opposite ear with cotton; then have him repeat aloud words or numbers spoken in a conversational tone by the examiner and record the distance at which they can be repeated correctly. Have him turn the other ear toward the examiner and repeat the test. In doubtful cases, the use of the audiometer is recommended.

Qualifications. Candidates for employment should not be accepted unless able to hear ordinary conversation, with each ear separately, the full distance of 20 feet.

Employes in train and engine service should not be permitted to work with the use of a hearing aid. No employe engaged in a hazardous occupation should be permitted to wear a hearing aid.

The Nose—Any serious pathology involving the nose.

The Mouth—Loss of part or whole of either maxilla, ununited fractures, ankylosis, deformity of either jaw interfering with mastication or speech, such as cleft palate or hare lip, marked pyorrhea or gingivitis, focal abscesses, markedly diseased teeth, hypertrophy or atrophy of the tongue, chronic ulcerations, leucoplakia, fissures or perforations of the hard palate (if marked), salivary fistula, hyertrophy of the tonsils sufficient to interfere with respiration and when tonsils are the seat of septic foci, malignant growths of buccal cavity, and loss of enough of the tongue to cause aphonia and inability to communicate vocally satisfactorily.

The Head—Abnormally large head with deformity (hydrocephalus and rickets), depression from fracture of skull, trephine openings, caries and exfoliation of bone, injury of cranial nerves, ozena.

The Neck—Toxic goiter (simple goiter without symptoms, if small, may be accepted), tuberculous adenitis, tracheal, thyro-glossal or cervical fistulae, wry neck, chronic laryngitis or disease of the larynx producing aphonia, and stricture or diverticulum of œsophagus.

Cardio-vascular System

1. Decompensation.
2. Bacterial endocarditis—acute or chronic.
3. Syncopes—recurring.
4. Mitral stenosis—with decompensatory signs.
5. Coronary infarction.
6. Angina, all stages.
7. Myocardial fibroses with symptoms.
8. Systolic and diastolic murmurs accompanied by enlargements with signs as shown in No. 1.
9. Aortic insufficiency—with or without low diastolic pressure.
10. Aneurysm of aorta.
11. Coronary insufficiency with symptoms.
12. Pericarditis and pericarditis with sequelae.
13. Heart block.
14. Morgagni-Adam-Stokes Syndrome.
15. Auricular fibrillation.
16. Paroxysmal tachycardia.
17. Arterio-sclerosis.
18. Impairment of circulation of extremities.
19. Intermittent claudication.
20. Exfoliative gangrene of extremities.
21. Thromboangiitis obliterans and Raynaud's Disease.
22. Carotid-sinus syncope.

Upper and Lower Extremities—Affections common in both the upper and lower extremities, chronic rheumatism, chronic diseases of the joints or movable cartilage, acquired or congenital deformities, such as old or irreducible dislocations or false joints, malignancy or suspected malignancy, severe sprain, marked relaxation of the ligaments or capsules of joints, dislocations, fistula connected with joints or any part of bones, effusions into the joints, badly united or ununited fractures, rickets, caries, necrosis, pronounced exostoses, atrophy or paralysis of a limb, extensive deep or adherent cicatrices, contraction or permanent retraction of a limb or portion thereof, loss of a limb or portion thereof, loss of thumb or loss of two fingers on one hand, varicose veins (if pronounced), club foot, chronic ulcers and disabling acquired flat feet.

The Chest—Caries or necrosis of ribs, unresolved pneumonia, or pneumonitis, marked emphysema, chronic pleurisy, pleural effusions, chronic bronchitis, bronchiectasis, tuberculosis, asthma, repeated pulmonary hemorrhage or marked loss of respiratory capacity, organic diseases of the

heart or large arteries, protracted functional derangement of the heart, and abnormal variations of the blood pressure.

The Abdomen—All chronic inflammations of the gastro-intestinal tract, gastric resection, diseases of the liver and spleen, ascites, pronounced hemorrhoids, prolapsus ani, fistula in ano, fissures of anus, hernia, actual or potential, in all situations (exceptions: clerks and others not engaged in laborious work, who have a single reducible hernia supported by a well-fitting truss).

The Genito-Urinary Organs—Gonorrhea, syphilis and venereal sores, stricture of the urethra, undescended testicle, except when within the abdomen, chronic diseases of the testicle or epididymitis, hydrocele of the tunic and cord, unless the hydrocele is small and non-progressive, varicocele with symptoms, disabling malformations or diseases of the genitalia or bladder, all organic diseases of the kidneys, and loss of one kidney.

Applicants with varicocele may be accepted when it is not accompanied by atrophy of the testes, pain or an evident neurotic state.

The Spine—Caries, spina bifida, lumbar abscess, fracture and dislocation of the vertebrae, angular curvatures (unless slight and lateral only), including gibbosity of the anterior and posterior part of the thorax, moderate or severe symptomatic or asymtomatic arthritis of the spine, and protruded intervertebral disc operated or unoperated.

The Skin—Chronic, malignant, contagious or parasitic diseases of the skin. Deep and adherent cicatrices; chronic ulcers and vermin.

Mental and Moral Infirmities—Any mental infirmity, epilepsy and epileptic equivalent, diseases of the cerebro-spinal system, chorea, and all forms of paralysis, tabes dorsalis or persistent neuralgias, and chronic alcoholism and habitual use of narcotics.

The Reflexes—Abnormal reflexes taken in conjunction with history of physical findings indicating possibility of serious disease.

Laboratory Blood—It is recommended that a routine blood test for syphilis be taken on all applicants for railroad employment.

Laboratory Urine—It is recommended that a routine urinalysis be be done on all applicants for detection of albumin and sugar.

FOR PROMOTION AND RE-EXAMINATION OF THOSE IN SERVICE

The results of a physical examination may bring out certain disqualifying findings, but keep in mind first, the duties that the employe must perform and secondly, the ability of the employe to perform that duty promptly and satisfactorily so that loss of life and property will not result.

EXAMINATION OF RESTAURANT AND RESTAURANT CAR APPLICANTS AND EMPLOYES

Applicants concerned with the preparation and handling of foodstuffs or dining equipment shall be examined before entering service.

Employes concerned with the preparation and handling of foodstuffs or dining equipment shall be re-examined, the periods not to exceed six months, which should include examination of the lungs, skin, mouth and genitalia.

Employes found to have a communicable disease when examined shall immediately be relieved from duty and not permitted to resume duty until all danger of communicability has disappeared. Food handlers with sores, skin eruptions or disfiguring conditions on exposed parts should be relieved from duty until condition is corrected.

Employes off duty account of illness six days or longer should be re-examined before resuming duty.

GENERAL

Many factors enter into the ultimate decision as to the candidate's fitness for service. Where all other physical factors are normal, it is not justifiable to reject an applicant unless there are marked variations from the normal.

When an applicant for employment has none of the disqualifying defects above mentioned, but whose general condition (mental or physical) is substandard from any cause and whose efficiency is thereby impaired, he should be rejected. In all doubtful cases the Company should be given the benefit by the Examiner, or if he desires the matter may be referred to the office of the Chief Medical Officer.

Applicants should be vaccinated at the time of examination unless a well-pitted scar is present, especially if smallpox is epidemic or sporadic.

DR. R. J. BENNETT (Chief Surgeon, Elgin, Joliet & Eastern Railway): I particularly want to thank all the members of this Section for the help which they gave us in this work. We sent around to the railroads, from coast to coast, and got their physical examination books and records and suggestions. We had several meetings, not only of the Committee—with Drs. Brandabur, Westline, Deraut, Horrall, Walden, and myself—but also with advisory members from the Chicago group here, and those advisory members really put in lots of time. They included Dr. Graham, Dr. Householder, Dr. Leake, Dr. Stuck and Dr. Metz. I certainly want to thank all the people who had anything to do with this big revision of this booklet.

We took everything that was in the original booklet, which runs back to 1939, and considered all the changes, additions and suggestions which had been made since that time, and incorporated everything into one overall draft.

Then by the process of elimination and going over each of these points separately, we finally got it down to the point where it was passed out for final approval by the Committee members.

Just to make a short resumé of the booklet, this is divided into three classes as far as revision requirements are concerned. There have been a couple of subdivisions added to Class A, and then, of course, Class B is a different group, and Class C.

As to examinations, the entrance examinations were kept about on the same level, but there has been some change given to the requirements for reexamination. The method has been changed.

We have suggested a different ideal weight table. We did the same thing with blood pressure. If we didn't have that weight table in there, and you had a man standing five-foot-two who weighed 300 pounds (just to carry that to an extreme), we felt he was a rather undue risk, because we have records of people who have fallen a distance of only one foot and who have received a smashed os calcis or some severe injury. So we tried to make these weights median, and we haven't gone too far one way or the other.

Of course, as you realize, the things we suggest in this pamphlet are for pre-employment physical examinations, basically, and then, secondarily, we take up those for re-examination.

We talked about hernias this morning. On page 7 of our Report we brought that in *rather short and to the point and left it up to you individually as* to just whom you wanted to admit to what job.

Now, if you will open the discussion—I'm sure you have all had a chance to read this, since it was put out in December of 1951, and you all have copies—I would be glad to hear what suggestions you have to make, or any recommendations you may have.

(There followed a general, off-the-record discussion of the various items in the Report of this Committee.)

THE CHAIRMAN: The next subject for discussion on the program is "First Aid Equipment and First Aid Instructions."

Does anyone have any ideas on first aid equipment or instructions that are different than what we have in the circulars?

DR. R. M. GRAHAM (Director, Department of Medicine and Sanitation, The Pullman Company):

With regard to the new method of artificial respiration that has been adopted generally over the country, I thought it might be better to bring it up before the general session rather than wait for the Committee of Direction to meet, and I would like to make a resolution.

Your Section's committee was cognizant of the active studies and experiment in the field of manual resuscitation when revision of the A.A.R. First Aid Instruction Booklet was completed in January, 1951, and the Schaefer method of artificial respiration was continued in the instructions at that time.

Since then, further studies and reports have demonstrated that the modified Holger Nielsen or arm-lift-back-pressure method of manual resuscitation is more effective, and the arm-lift-back-pressure method has been adopted in preference to others for instruction and use by such national organizations as the Red Cross, the Army, Navy and Air Force, the Public Health Service, the Bureau of Mines, and others. The method is endorsed by the Council on Physical Medicine and Rehabilitation of the American Medical Association.

It is therefore proposed that the modified Holger Nielsen arm-lift-back-pressure method of artificial respiration be substituted for the Schaefer prone pressure method in the A.A.R. First Aid Instruction Booklet, and I so move.

THE CHAIRMAN: You all know what the new method is. It is now a question of whether you want to substitute the new method for the one that is given in our First Aid Manual, known as the Schaefer method.

(The motion before the assembly was then duly seconded and carried unanimously.)

THE CHAIRMAN: The last Committee on First Aid Equipment was a special committee, and it was subsequently inactivated. I believe that we should have a permanent committee to handle first aid and first aid equipment. There are a number of States that are now inquiring as to what kind of legislation they should have for a first aid package and first aid instructions and I think the subject is one that is again up for much consideration.

I think we should have a Committee on First Aid included in our committees, to keep progressing and to keep up to date on all the new things coming along. I would like to have a consensus on whether we should have a Committee on First Aid, the same as we have Committees on Trauma and Rehabilitation and Physical Standards. How many are in favor of having a committee, more or less permanent, for first aid and first aid equipment?

Contrary? (None) We will therefore recommend to the next Committee of Direction that such a committee be appointed and continued in service.

The next item is "Unfinished Business." Is there any unfinished business that any of you have in mind or know anything about, or is there any new business that any of you wish to bring up at this time? If not, I will ask Dr. Washburn and Dr. Graham to escort the new Chairman to the front of the room.

CHAIRMAN-ELECT DR. A. M. W. HURSH (Chief Medical Examiner, Pennsylvania Railroad System): Dr. Hansen and fellow members of the Section: Of course, I feel greatly honored at being privileged to serve as your Chairman during the coming year. At the same time, following, as I do, a long line of able and distinguished Chairmen, I feel very humble, but with the cooperation of the group as a whole, and of the various committees, with such cooperation as we have had in the past, I think we should have a successful year.

Dr. Bennett brought up the matter of a meeting place for next year's meeting. The Committee of Direction rather feels that Chicago is the best place, and that we should meet as we are doing this year, in connection with the American Association of Railway Surgeons. We think we have a better attendance that way.

We thought some of the other members might have other ideas, and if they do, we would like to hear them; they will be given consideration.

DR. C. F. HOLTON (Chief Surgeon, Central of Georgia Railway): I'd like to invite you to Savannah, Georgia, again. (Applause).

CHAIRMAN-ELECT DR. HURSH: Thank you very much, Dr. Holton. We will keep that in mind.

Is there any other business you can think of, Dr. Hansen?

THE CHAIRMAN: I don't know of any other business, but before I sit down again, I want to thank everybody for all their help and courtesies during the past year.

There was one meeting of the Committee of Direction that I was not able to attend, and the Vice Chairman wasn't there, either, so Dr. Graham very kindly took charge of that meeting.

I know that if you have the help of our very efficient Secretary, and the rest of the men, as I have had, you won't have any trouble whatever this year.

Thanks to all of you.

DR. WAGNER: I was just going to say that I think we'd be remiss if we did not adjourn the meeting by a standing vote of thanks to Dr. Hansen for his services in the past year.

(The members arose and applauded.)

THE CHAIRMAN: Thank you very much, gentlemen.

CHAIRMAN-ELECT DR. HURSH: The meeting is adjourned.

(The meeting adjourned sine die at 3:55 o'clock, Monday, March 31, 1952.)

H. S. DEWHURST,
Secretary

DR. T. L. HANSEN,
Chairman.

REPORT OF COMMITTEE ON NOMINATIONS AT 1952 ANNUAL MEETING AND ELECTION OF MEMBERS TO THE COMMITTEE OF DIRECTION

DR. A. NEUFFACER (Chief Medical Officer, Reading Company): Mr. Chairman and gentlemen, your Committee on Nominations met February 19th at the Congress Hotel in Chicago, and in line with the Rules of Order and taking into consideration the allocation of nominees for the Committee of Direction, we have selected the following members for ballot:

ASSOCIATION OF AMERICAN RAILROADS

MEDICAL AND SURGICAL SECTION

ANNUAL MEETING—MARCH 31, 1952

BALLOT FOR MEMBERS OF COMMITTEE OF DIRECTION

(Indicate by an 'X' the names voted for)

Southern Territory (3 Year Term—Vote for One)

	Dr. M. B. Clayton, Chief Surgeon Southern Railway System
	Dr. J. D. Collins, Chief Surgeon Seaboard Air Line Railroad
	Dr. C. F. Holton, Chief Surgeon Central of Georgia Railway

Canadian Territory (3 Year Term—Vote for One)

	Dr. K. E. Dowd, Chief Medical Officer Canadian National Railways
	Dr. C. P. Fenwick, Chief of Medical Services Canadian Pacific Railway
	Dr. R. E. Nicholson, Chief Medical Officer Toronto, Hamilton and Buffalo Railway

Eastern Territory (3 Year Term—Vote for One)

	Dr. S. M. English, Medical & Surgical Director Baltimore and Ohio Railroad
	Dr. J. R. Knowles, Chief Surgeon Boston and Maine Railroad
	Dr. J. Huber Wagner, Chief Surgeon Bessemer and Lake Erie Railroad

Western Territory (3 Year Term—Vote for One)

	Dr. T. L. Hansen, Chief Surgeon Chicago, Rock Island and Pacific Railroad
	Dr. E. A. Hinds, Chief Surgeon Denver and Rio Grande Western Railroad
	Dr. R. S. Kieffer, Chief Surgeon Missouri-Kansas-Texas Railroad

Western Territory (2 Year Term Vote for One)

	Dr. E. J. Denuf, Chief Surgeon Northern Pacific Railway
	Dr. V. M. Hollo, Chief Surgeon St. Louis-San Francisco Railway
	Dr. J. K. Stack, Chief Surgeon Chicago and North Western Railway

THE CHAIRMAN: Thank you, Dr. Neupauer.

You will note that the last group on the sheet, for the Western Territory, is proposed for a two-year term. Dr. Metz retired as Chief Surgeon of the Milwaukee the first of February; he served one year, and this is to fill his unexpired term.

The ballots will now be passed out, and after the meeting I would like to ask Dr. Davis, Dr. Bennett and Dr. Houk to serve as tellers. They will please come to this table after the meeting is over to help count the votes.

The Secretary has a message for you now.

THE SECRETARY: Gentlemen, in order that your ballots may be properly counted, they should be completed all the way down the line. Only one ballot is allowed for a road. If the voting representative of the road is present, he should complete the ballot. If he is not present, someone representing him is entirely welcome to make out the ballot, but we can only have one ballot from a railroad. The envelope calls for the name of the representative and the railroad, so please show those on there when you put the ballot back in the envelope so we will know whose railroad it is when we list the votes later on.

(The Ballots were then distributed and collected.)

THE CHAIRMAN: I would like to ask the tellers—Dr. Davis, Dr. Bennett and Dr. Houk—to meet with Mr. Dewhurst just outside the door to count the ballots.

(At the opening of the Second Session, the Chairman called upon Dr. Davis to present the report of the Tellers covering the election.)

DR. WILLIAM T. DAVIS (Chief Medical Officer, Delaware, Lackawanna & Western Railroad): Mr. Chairman, the tellers wish to report that the balloting this morning resulted in the following gentlemen being elected to the Committee of Direction:

For the Southern Territory, Dr. M. B. Clayton, Chief Surgeon, Southern Railway System.

For the Canadian Territory, Dr. K. E. Dowd, Chief Medical Officer, Canadian National Railways.

For the Eastern Territory, Dr. J. Huber Wagner, Chief Surgeon, Bessemer and Lake Erie Railroad.

For the Western Territory, three-year term, Dr. T. L. Hansen, Chief Surgeon, Chicago, Rock Island & Pacific Railroad.

For the Western Territory, two-year term, Dr. J. K. Stack, Chief Surgeon, Chicago and North Western Railway.

THE CHAIRMAN: The next order of business will be an intermission of about ten minutes for a meeting of the Committee of Direction to elect a Chairman and Vice Chairman. This meeting will be held either in the hall or in the room right next to the door.

[A brief recess was taken.]

THE CHAIRMAN: The Committee of Direction has just completed its session for electing a Chairman and Vice Chairman. I have the pleasure to advise that Dr. Hursh is elected Chairman for the ensuing year. [Applause] And Dr. Wagner is Vice Chairman. [Applause]

OFFICERS AND PERSONNEL OF COMMITTEES OF THE MEDICAL AND SURGICAL SECTION FOR THE YEAR 1952-1953

Dr. A. M. W. Hursh, Chairman
Dr. J. Huber Wagner, Vice-Chairman
H. S. Dewhurst, Secretary

Committee of Direction

Dr. A. M. W. Hursh, Chairman
Dr. J. Huber Wagner, Vice-Chairman

(Term expires in 1953)

Dr. R. J. Bennett, Jr., Chief Surgeon, Elgin, Joliet & Eastern Railway, 208 South La Salle Street, Chicago, Illinois.
Dr. I. Goldowsky, Medical Director, Central Railroad Company of New Jersey, Jersey City, New Jersey.
Dr. A. M. W. Hursh, Chief Medical Examiner, Pennsylvania Railroad System, 15 North 32nd Street, Philadelphia 4, Pennsylvania.
Dr. W. E. Mishler, Chief Surgeon, Erie Railroad, 608 Republic Building, Cleveland 1, Ohio.

(Term expires in 1954)

Dr. Duncan Eve, Chief Surgeon, Nashville, Chattanooga & St. Louis Railway, Nashville, Tenn.
Dr. R. M. Graham, Director, Department of Medicine and Sanitation, The Pullman Company, Chicago, Illinois.
Dr. J. K. Stack, Chief Surgeon, Chicago & North Western Railway, 127 North Clinton Street, Chicago 6, Illinois.
Dr. W. W. Washburn, Chief Surgeon, Southern Pacific Company, San Francisco 17, California.

(Term expires in 1955)

Dr. M. B. Clayton, Chief Surgeon, Southern Railway System, Washington, D. C.
Dr. K. E. Dowd, Chief Medical Officer, Canadian National Railways, Montreal, Quebec, Canada.
Dr. T. L. Hansen, Chief Surgeon, Chicago, Rock Island and Pacific Railroad, Chicago, Illinois.
Dr. J. Huber Wagner, Chief Surgeon, Bessemer and Lake Erie Railroad, 525 William Penn Place, Pittsburgh, Pennsylvania.

Committee on Disability and Rehabilitation

Dr. James K. Stack (Chairman), Chief Surgeon, Chicago & North Western Railway, 127 North Clinton Street, Chicago 6, Illinois.
Dr. J. F. DePree, Chief Surgeon (Lines West), Chicago, Milwaukee, St. Paul & Pacific Railroad, 407 Medical Arts Building, Seattle 1, Washington.
Dr. S. M. English, Medical and Surgical Director, Baltimore and Ohio Railroad, B&O Central Building, Room 217, Baltimore 1, Maryland.
Dr. R. S. Kieffer, Chief Surgeon, Missouri-Kansas-Texas Railroad, St. Louis, Missouri.
Dr. W. W. Washburn, Chief Surgeon, Southern Pacific Company, Hospital Department, 1400 Fell Street, San Francisco 17, California.

Committee on Trauma

Dr. B. W. Stockwell (Chairman), Chief Surgeon, Grand Trunk Western Railway, Detroit, Michigan.

Dr. R. G. Carothers, Chief Surgeon, Cincinnati, New Orleans and Texas Pacific Railway, Cincinnati 2, Ohio.

Dr. Duncan Eve, Chief Surgeon, Nashville, Chattanooga and St. Louis Railway, 2001 Hayes Street, Nashville 4, Tennessee.

Dr. C. F. Holton, Chief Surgeon, Central of Georgia Railway, Savannah, Georgia.

Dr. J. Huber Wagner, Chief Surgeon, Bessemer and Lake Erie Railroad, 525 William Penn Place, Pittsburgh, Pennsylvania.

Committee on Developments Resulting from Physical Examinations

Dr. R. J. Bennett, Jr. (Chairman), Chief Surgeon, Elgin, Joliet & Eastern Railway, 208 South LaSalle Street, Chicago, Illinois.

Dr. J. J. Brandabur, Chief Medical Examiner, Chesapeake & Ohio Railway, Huntington, West Virginia.

Dr. B. I. Derauf, Chief Surgeon, Northern Pacific Railway, St. Paul 1, Minnesota.

Dr. O. H. Horrall, Chief Surgeon, Chicago, Burlington & Quincy Railroad, 547 West Jackson Boulevard, Chicago 6, Illinois.

Dr. K. C. Walden, Superintendent and Medical Director, Relief Department, Atlantic Coast Line Railroad, Wilmington, North Carolina.

Dr. R. S. Westline, Chief Surgeon, Chicago & Eastern Illinois Railroad, 334 West 63rd Street, Chicago, Illinois.

Committee on Medical Aspects of Air Conditioning of Cars

Dr. R. M. Graham (Chairman), Director, Department of Medicine and Sanitation, The Pullman Company, Merchandise Mart Plaza, 222 West North Bank Drive, Chicago 54, Illinois.

Dr. M. B. Clayton, Chief Surgeon, Southern Railway System, 15th and K Streets N. W., Washington, D. C.

Dr. Charles B. Fenwick, Chief of Medical Services, Canadian Pacific Railway, Windsor Station, Montreal, Quebec, Canada.

Committee on First Aid

Dr. E. C. Olson (Chairman), Chief Surgeon, Illinois Central Railroad, 5800 Stony Island Avenue, Chicago, Illinois.

Dr. V. W. Hollo, Chief Surgeon, St. Louis-San Francisco Railway, St. Louis, Missouri.

Dr. A. Neupauer, Chief Medical Officer, Reading Company, Reading Terminal, Philadelphia 1, Pennsylvania.

Representatives of the Medical and Surgical Section on the Joint Committee on Railway Sanitation

Dr. R. M. Graham (Chairman), Director, Department of Medicine and Sanitation, The Pullman Company, Chicago, Illinois.

Dr. M. B. Clayton, Chief Surgeon, Southern Railway System, Washington, D. C.

Dr. A. M. W. Hursh, Chief Medical Examiner, Pennsylvania Railroad, Philadelphia, Pennsylvania.