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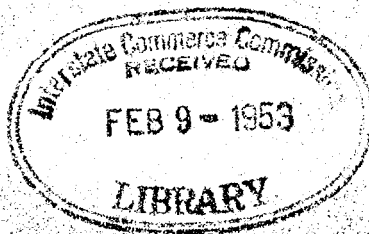
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Association of American Railroads

PROCEEDINGS
OF THE
THIRTY-SECOND ANNUAL MEETING
OF THE
MEDICAL AND SURGICAL SECTION



CHICAGO, ILLINOIS
MARCH 31, 1952

PROCEEDINGS
OF THE
THIRTY-SECOND ANNUAL MEETING
OF THE
Association of American Railroads
MEDICAL AND SURGICAL SECTION



HELD AT THE
DRAKE HOTEL
CHICAGO, ILLINOIS
MARCH 31, 1952

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ASSOCIATION OF AMERICAN RAILROADS

(April, 1952)

Officers

W. T. Faricy, President.
 J. Carter Fort, Vice-President and General Counsel (Law Department).
 J. H. Aydelott, Vice-President (Operations and Maintenance Department).
 Walter J. Kelly, Vice-President (Traffic Department).
, Vice-President (Finance, Accounting, Taxation and
 Valuation Department).
 J. H. Parmelee, Vice-President and Director (Bureau of Railway Economics).
 Robert S. Henry, Vice-President (Public Relations Department).
 G. M. Campbell, Secretary-Treasurer.

Board of Directors

W. T. Faricy, Chairman (ex-officio).
 C. McD. Davis, President, Atlantic Coast Line Railroad.
 Harry A. DeButts, President, Southern Railway System.
 J. D. Farrington, President, Chicago, Rock Island & Pacific Railroad.
 Walter S. Franklin, President, Pennsylvania Railroad.
 F. G. Gurley, President and Chairman of Executive Committee, Atchison,
 Topeka & Santa Fe Railway.
 C. M. Hutchins, President, Bangor & Aroostook Railroad.
 P. W. Johnston, President, Erie Railroad.
 W. A. Johnston, President, Illinois Central Railroad.
 J. P. Kiley, President, Chicago, Milwaukee, St. Paul & Pacific Railroad.
 G. Metzman, President, New York Central System.
 H. C. Murphy, President, Chicago, Burlington & Quincy Railroad.
 P. J. Neff, Chief Executive Officer, Missouri Pacific Lines.
 D. J. Russell, President, Southern Pacific Company.
 John W. Smith, President, Seaboard Air Line Railroad.
 A. E. Stoddard, President, Union Pacific Railroad.
 Roy B. White, President, Baltimore & Ohio Railroad.
 Wm. White, President, Delaware, Lackawanna & Western Railroad.

OPERATIONS AND MAINTENANCE DEPARTMENT

J. H. Aydelott, Vice-President

OPERATING-TRANSPORTATION DIVISION

F. A. Dawson, Chairman
 R. C. Parsons, Vice-Chairman
 L. R. Knott, Executive Vice-Chairman

 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. 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. 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.)

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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.

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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 selected 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 named 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.

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(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 employees. It shall also consider ways and means for the rehabilitation of injured or incapacitated employees 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 Business

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

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 Boston & Maine
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Central Vermont
 Chicago & Easter
 Chicago & North

Chicago & Weste
 Chicago, Milwaul
 Railroad.....

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. Bundy, 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 Goldowsky, 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. I. Derauf, Chief Surgeon.
Pennsylvania Railroad.....	Dr. A. M. W. Hursh, Chief Medical Examiner. Mr. V. E. Amspacher, 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.

Soo Line R
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Associator

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 Employees 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. Hirschfeld, 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. Hirschfeld 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.

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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

Committee Members

Dr. James K. Stack (Chairman), Chief Surgeon, Chicago & North Western Railway.
 Dr. T. L. Hansen, Chief Surgeon, Chicago, Rock Island & Pacific Railroad.
 Dr. W. W. Leake, Chief Surgeon, Illinois Central System.
 Dr. W. W. Washburn, Chief Surgeon, Hospital Department, Southern Pacific Company.
 Dr. O. B. Zeinert, Chief Surgeon, Missouri Pacific Railroad.

Advisory Members

Dr. R. J. Bennett, Jr., Chief Surgeon, Elgin, Joliet & Eastern Railway.
 Dr. R. M. Graham, Director, Department of Sanitation & Surgery, The Pullman Company.
 Dr. C. C. Guy, Chief of Surgery, Chicago Hospital, Illinois Central Railroad.
 Dr. O. H. Horrall, Chief Surgeon, Chicago, Burlington & Quincy Railroad.
 Dr. R. B. Kepner, Chief Medical Officer, Chicago, Burlington & Quincy Railroad.
 Dr. A. R. Metz (ex-officio), Chief Surgeon (Lines East), Chicago, Milwaukee, St. Paul & Pacific Railroad.

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.

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DIGEST

ABRASIONS WITH EMBEDDED CINDERS

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

ALCOHOLISM

Every railroad occasionally encounters the problem of an employee 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 employee'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 employee 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

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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 employee.

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

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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.....	796
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 employees 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 laminae 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 up-set 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.

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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.

Employees 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 employee 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 employees 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).

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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 prostration—due to loss of salt and water. It is a condition of collapse and poor coordination. It is aggravated by heat and humidity and should be handled with care.
3. Heat stroke—due to loss of salt and water. It is a condition of collapse and poor coordination. It is aggravated by heat and humidity and should be handled with care.

The essential

1. Release of the employee from the hottest part of the day.
2. Instant first aid and continued treatment.
3. Victims should be kept cool and comfortable.

The subject of heat in railroad medicine is one that has impressed upon the minds of many.

It is desirable that a "Grand" committee be organized just as important as the person engaged in the work.

As previous problems have been solved by convulsions, tarry loss or lay could be caused by the subject a

It is recommended that though momentary employee to be should be considered as disqualifying in any train o

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 then 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 employee 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 employees 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 employee 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 employees 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 monograph¹ 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 gastro-enteritis 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.

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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 employees 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 employees 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 1947 (pps. 17-20), and discussion of the same subject in Proceedings for 1948 (pps. 71-74).

Nothing further has developed since those 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 employees 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 employees 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 EMPLOYEE

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

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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 employees 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. Employees 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 employee 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.

Employees 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 employee 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
 Paralysis 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

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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 habits 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 habits 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 huge 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 individuals' 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 employees. This value is directly proportional to the earliest possible time it is instituted in the therapeutic program.

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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 employees, 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 employee'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 $\frac{1}{4}$ " deep and $\frac{1}{4}$ " to $\frac{1}{2}$ " 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 employees repeatedly report to the Medical Department for treatment of injuries, many of which of course are of a minor nature; whereas other employees 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 employees 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 employee 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

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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 employees 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 employee 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 employees should include examination for active manifestation of syphilis.

All employees 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. Employees 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

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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. Employees 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.

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