

How the Medical Review Board (MRB) Works: One Example by Medical Topic

Kurt T. Hegmann, MD, MPH

MRB Chairperson

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MRB Mission

- Provide expert advice on medical standards, guidelines, and research on the qualification and fitness for duty of Commercial Motor Vehicle (CMV) drivers
- Link between medical fitness for duty and saving lives and preventing crashes and injuries

Driver Environment

- Physical demands
- Psychological demands
- Federal regulations require more than driving:
 - Pre/post-trip vehicle safety inspection
 - Secure load
 - Check load during trip

How Do Physical Demands Relate to Medical Standards?

- **Sensory Perception** → **Vision, Hearing Standards**
- **Bend, stoop, maintain crouching position to inspect brakes and tires, enter/exit cab (high steps), climb ladders** → **Musculoskeletal Requirements**
- **No fainting, loss of consciousness or other altered mental status, including hypoglycemia** → **Cardiovascular, Diabetes, Epilepsy, Pulmonary Standards**

Musculoskeletal Disorders: MRB Review Process

- **MRB considers/reviews:**
 - Existing medical regulations and guidelines
 - Advances in medical science and technology
 - Evidence Report
 - Medical Expert Panel (MEP) Commentary
 - MEP comprised of subject matter experts who also review the evidence and make independent recommendations
 - Public Comment
- **Provides science-based recommendations to change or update medical regulations and guidelines**

Key Questions Studied

- **Key Question 1:** Does amputation of an extremity increase crash risk and/or affect driving ability?
- **Key Question 2:** Does inflammatory arthritis (e.g. rheumatoid arthritis or similar) increase crash risk and/or affect driving ability?

Key Questions Studied

- **Key Question 3:** Does decreased angle of rotation at the level of the spine and neck (as might be the result of ankylosis and/or other vertebral injury) increase crash risk and/or affect driving ability?
- **Key Question 4:** Do vehicle modifications and/or appropriate limb prosthetics decrease crash risk in disabled individuals?



Evidence Based Research— Search Strategies

Electronic database searches include:

- CINAHL (Cumulative Index to Nursing and Allied Health Literature)
- PubMed
- Medline
- National Guideline Clearinghouse (NGC)
- Cochrane Database of Systematic Reviews
- Cochrane Central Register of Controlled Trials
- Health Technology Assessment Database (HTA)
- International Health Technology Assessment (IHTA)
- NHS Economic Evaluation Database (NHS EED)
- NTIS
- PsycINFO

Evidence Based Research— Search Strategies

Hand searches of journal and non-journal literature:

- Journals and supplements
- Non-journal publications and conference proceedings
- Review of bibliographies/reference lists from peer-reviewed and gray literature
 - Gray literature: reports, studies, articles, and monographs produced by federal and local government agencies, private organizations, educational facilities, consulting firms, and corporations

Examples of Retrieval and Inclusion Criteria

- **Article must:**
 - Be published in the English language
 - Have 10 or more subjects enrolled, aged ≥ 18
 - Be full-length
 - Describe a study that attempted to determine the risk for a motor vehicle crash directly (risk for a fatal or nonfatal crash) associated with the topic specific key words (e.g., amputation or arthritis)
 - Include a comparison control group of comparable subjects

MRB Recommendation #1

- The focus of the evaluation of musculoskeletal conditions should be on function rather than diagnosis

MRB Recommendation #2

- FMCSA should obtain information about the physical requirements needed to safely drive a CMV, to include pre-trip and en route safety inspections

MRB Recommendation #3

- FMCSA should convene an expert panel tasked with developing a physical screening instrument for the medical examiner

MRB Recommendation #4

- FMCSA should standardize the driving-specific work capacity evaluation (road test) to include pre-trip and en route safety inspections

MRB Recommendation #5

- FMCSA should stimulate research on the effect of musculoskeletal injuries on driver safety

Agency Action

- Agency reviews all evidence and recommendations made by both the Medical Expert Panel and the MRB and determines what, if any, action is necessary

Research Topics In Progress

Future topics include (but not limited to):

- Psychiatric Disease
- Renal Disease
- Post surgical issues
- Infectious diseases
- Injury
- Hearing and Vision
- Neurologic Disease
- Diabetes Mellitus (Endocrine System)
- Prescription Medications
- Cardiovascular Disease
- Sleep Disorders (Pulmonary System)

Reference Sites

- MRB Web Site
www.mrb.fmcsa.dot.gov
- FMCSA Web Page (click on Medical Programs)
www.fmcsa.dot.gov
- For questions about the MRB, email us at
contactmrb@fmcsa.dot.gov

Questions



**Medical Review Board
Federal Motor Carrier Safety Administration**

