

Recently Released Report by Major Scientific Academy Proposes Significant Changes in Understanding and Managing Temporomandibular Disorders

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A recent Consensus Study Report¹ of the National Academies of Sciences, Engineering, and Medicine (NASEM) recommends that the field of temporomandibular disorders (TMDs) must be totally changed in terms of biomedical research, professional education/training, and patient care. Recent research demonstrates that TMDs are complex multisystem disorders, which points to the need for a different, patient-centered, interprofessional approach to TMD research and treatment. Therefore, traditional dental-centric approaches to research and treatment of TMDs must be modernized to align with insights gained from new scientific discoveries. The NASEM Study Report, *Temporomandibular Disorders: Priorities for Research and Care (2020)*, was produced to address improved care and new research directions for TMD. This announcement summarizes the NASEM Committee's recommendations and reports on ongoing efforts to implement these recommendations. These efforts are led by The TMJ Association (TMJA), a nonprofit patient advocacy organization, the National Institutes of Health (NIH), and the TMJ Patient-led RoundTable under the auspices of the US Food and Drug Administration (FDA) and its Medical Device Epidemiology Network (MDEpiNet).

In March 2020, the Committee released a Consensus Study Report¹ that included 11 recommendations covering research, treatments, training, and education. The report proposed near-term and medium- to long-term recommendations to address gaps and opportunities in each area.

The first 4 recommendations focus on developing a national research consortium and setting priorities

for basic and translational research, public health research, and burden of disease, as well as bolstering clinical research. All 4 priorities form the basis for improving patient-centered care. In response, the NIH and the National Institute of Dental and Craniofacial Research (NIDCR) established a Temporomandibular Joint Disorders Multi-Council Working Group to review the NASEM report and the recommendations and then to develop strategies for the NIH to better support research efforts in this area. The work of this group is underway. The MDEpiNet Patient-led RoundTable developed a research plan that is in accordance with the NASEM report. In a patient-driven initiative, members of the TMJA are seeking additional funds for TMJ research.

Recommendations 5 and 6 aim to improve the quality of care for TMD patients through improved disease risk assessment and stratification, diagnostics, and dissemination of clinical practice guidelines and metrics of care. A current focus of the FDA and its MDEpiNet Initiative is the Coordinated Registry Network (CRN), which gathers real-world evidence data on patients' health status and care in several linked registries to be used in health care decision-making and postmarket monitoring of approved devices and other treatments. Acting as the catalyst to advance the needs of patients with TMJ implants, the TMJA developed the TMJ Patient-led RoundTable—the first patient-centered, public-private collaboration among the federal government, scientists, clinicians, dentists, advocates, manufacturers, and others. The patient-led registry for TMD will be part of the CRN and addresses recommendations 5 and 6 by providing a large dataset to be used

in determining risk assessments for various TMD treatments and establishing clinical guidelines for the care of patients suffering from TMDs.

Recommendation 7 focuses on improved reimbursement and access to assessment, treatment, and management of TMDs. These recommendations will be addressed in a more long-term fashion pending the outcomes of results from other recommendations.

Recommendations 8 to 10 are centered on improving TMD patient treatments and propose to develop “Centers of Excellence for TMDs and Orofacial Pain Treatment” (recommendation 8), improve professional school education (recommendation 9), and expand specialized continuing education for health care providers (recommendation 10). To improve dental education, the TMJA and the American Academy of Orofacial Pain (AAOP) recommended to the Committee on Dental Accreditation (CODA) that TMDs must be included in dental school curriculum. That recommendation was approved and will be implemented in 2022; as a result, the TMJA and AAOP are developing TMD predoctoral core curriculum outlines. Separately, the TMJA has established a Working Group on Interprofessional Models of TMD Care. This group is exploring ways to develop a new multidisciplinary model of TMD care involving expertise across medicine, dentistry, nursing, physical therapy, psychologic counseling, and other relevant areas of health care.

Recommendation 11 addresses patient education and awareness about TMDs and reducing the stigma of disease. The NASEM recommends that the TMJA and TMJ Patient-led RoundTable members work together with the American Dental Education Association (ADEA), American Chronic Pain Association, and the AAOP to develop educational materials for TMDs based on the current understanding of this disorder as summarized in the NASEM report. These materials will include brochures, videos, and virtual educational workshops addressing many aspects of TMD management and care, access to quality treatments, and approaches to stigma reduction.

The actions described above are only the first steps in a major effort to carry out a much-needed paradigm shift directed toward TMD research, treatment, and education. The NASEM report and its recommendations are a direct call to the biomedical research and health care communities to advance 21st century science-based research and treatments of TMDs. The new research results strongly suggest that the current dental-focused treatments for TMDs must be reconceived toward a multidisciplinary, interprofessional team approach involving specialists within the broader medical community.² The treatments must be patient-centered and evidence-based, and, when necessary, the use of any implanted devices must undergo rigorous premarketing evaluation and postmarketing surveillance.

New models of disease treatment and novel research hypotheses are desperately required to revolutionize the scientific and clinical approaches toward these conditions. Research expertise not presently represented in the TMD portfolio is essential to uncover new information that will form the basis for interprofessional care, clinical guidelines, and disease and treatment risk assessments. Equipped with these new concepts, multidisciplinary teams of health care providers will be able to diagnose, treat, and manage TMDs in a professional, patient-centered, and caring way that will improve the health and lives of TMD patients.

References

1. National Academies of Sciences, Engineering, and Medicine. Temporomandibular Disorders: Priorities for Research and Care. Washington, DC: The National Academies Press. <https://doi.org/10.17226/25652>. <https://www.nap.edu/catalog/25652/temporomandibular-disorders-priorities-for-research-and-care>. Accessed 30 August 2021.
2. Greene CS, Manfredini D. Treating temporomandibular disorders in the 21st century: Can we finally eliminate the “Third Pathway”? *J Oral Facial Pain Headache* 2020;34:206–216.