

THE IMPORTANCE OF ELECTROMYOGRAPHY IN THE MODERN MEDICINE

Astakhov M.G.

Scientific supervisor: V.A. Kuzina, Senior Lecturer
Department of Foreign Languages
Saint-Petersburg State Pediatric Medical University

Research relevance: electromyography (EMG) is a diagnostic medical method for evaluating and recording the electrical activity produced by skeletal muscles. EMG is used as a diagnostics tool for identifying neuromuscular diseases or as a research instrument for studying disorders of motor control.

Objectives: to study the principle of electromyography and the importance of EMG in the modern medicine.

Materials and methods: the literature on this topic was studied and various possibilities of electromyography were analyzed, a consultation with a doctor functional diagnostics was conducted.

Results: at rest, the condition of muscular tissue is normally electrically inactive. After the electrical activity caused by the irritation of needle insertion subsides, the electromyograph should detect no abnormal spontaneous activity. Abnormal results may be caused by disorders of muscle, disorders of nerves, motor neuron diseases.

Conclusion: the results of an EMG can help the doctor to determine the underlying cause of some symptoms, like tingling, numbness, muscular weakness, muscular pain or cramping, paralysis, involuntary muscle twitching, and to make the final diagnosis for patient.

References

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2. K.R. Mills "The basics of electromyography" (2005).
3. P. Pressman "Understanding your electromyography results" (2018).

TREATMENT OF MENISCAL TEARS: AN EVIDENCE BASED APPROACH

Samsonov P.

Scientific Supervisor: M. Yu. Daineko, Senior Lecturer
Department of Foreign Languages
Saint Petersburg State Pediatric Medical University

Research relevance: meniscal tears are a common orthopaedic pathology. Selecting the correct treatment can be challenging and involves multiple factors. This review explores the evidence for managing meniscal tears to consider each treatment option based on current available evidence.

Objectives: to study whether arthroscopic partial meniscectomy for symptomatic patients with a meniscal tear and knee osteoarthritis results in better functional outcomes than nonoperative therapy.

Materials and Methods: multicenter, randomized, controlled trial involving symptomatic patients 45 years of age or older with a meniscal tear. We randomly assigned 351 patients to surgery or to a standardized physical-therapy regimen. The primary outcome was the difference between the groups with respect to the change in WOMAC score 6 months after randomization.

Results: in the intention-to-treat analysis, the mean improvement in the WOMAC score after 6 months was 20.9 points (95% confidence interval [CI], 17.9 to 23.9) in the surgical group and 18.5 (95% CI, 15.6 to 21.5) in the physical-therapy group (mean difference, 2.4 points; 95% CI, -1.8 to 6.5). At 6 months, 51 active participants in the study who were assigned to physical therapy alone (30%) had undergone surgery, and 9 patients assigned to surgery (6%) had not undergone surgery. The results at 12 months were similar to those at 6 months. The frequency of adverse events did not differ significantly between the groups.