

Comparative effectiveness, safety, and costs of surgical versus conservative treatment in patients with full-thickness rotator cuff tears



Report of the Council of Experts of the Swiss Medical Board

Executive Summary

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Haus der Akademien

Laupenstrasse 7

3001 Bern

Geschäftsstelle

Susanna Marti Calmell

Telefon +41 76 515 0220

info@swissmedicalboard.ch

www.swissmedicalboard.ch

Council of Experts:

Nikola Biller-Andorno, Prof. Dr. med. Dr. phil., Direktorin des Instituts für Biomedizinische Ethik und Medizingeschichte, Universität Zürich

Stefan Felder, Prof. Dr. rer. pol., Ordinarius für Health Economics, Universität Basel

Stephan Harbarth, Prof. Dr. méd., Service Prévention et Contrôle de l'Infection, Hôpitaux Universitaires de Genève

Maria C. Katapodi, Prof. Dr. PhD, RN, FAAN Pflegewissenschaft, Medizinische Fakultät Universität Basel

Christoph A. Meier, Prof. Dr. med., CMO - Ärztlicher Direktor, Universitätsspital Basel

Brigitte Tag, Prof. Dr. iur. utr., ordentl. Professorin für Strafrecht, Strafprozessrecht und Medizinrecht, Universität Zürich

George Thalmann, Prof. Dr. med., Chefarzt, Urologische Universitätsklinik, Inselspital Bern

Martin Tramèr, Prof. Dr. méd., Médecin chef du Service d'Anesthésiologie, Directeur Département Médecine Aiguë, Hôpitaux Universitaires de Genève

Scientific secretariat:

Erik von Elm, Dr. med. MSc, Directeur Cochrane Suisse, Centre universitaire de médecine générale et santé publique (Unisanté), Université de Lausanne

Executive Summary

The Swiss Medical Board (SMB) assessed the evidence of clinical effectiveness and safety of surgical and conservative treatment of full-thickness rotator cuff tears and evaluated the economic implications, using standard methods for systematic reviews and health economic analysis. Based on this assessment, the present Appraisal Report was drafted using the Evidence-to-Decision (EtD) framework.

The assessment included three randomized, controlled trials (RCTs) in a total of 332 patients, and seven controlled nonrandomized studies (NRSs) in 656 patients. Duration of follow-up in these studies was up to 5 years. For one RCT, outcome data after 10 years of follow-up were reported only recently, and these were taken into account in this report. Outcome data of the RCTs in shoulder function and shoulder pain showed statistically significant differences in favor of surgery when compared to conservative treatment. However, the clinical relevance of these differences was questionable. Effect estimates for shoulder range of motion and muscle strength were similar after surgery and conservative treatment in the RCTs. In one study, the observed differences were still seen in the follow-up examination after 10 years. In the NRSs included in this assessment, shoulder function also showed statistically significant differences in favor of surgery, but clinical relevance of the difference was again uncertain.

The Appraisal Committee concluded that the differences in desirable effects were moderate. There was considerable imprecision in the estimates of undesirable effects due to the small number of adverse events reported. The absolute risk of re-tears after initial surgery appeared to be substantial. Overall, the differences between surgical and conservative treatments were small. The quality of the evidence was considered moderate to low for RCTs and very low for NRSs. The overall quality of the evidence was judged to be low. The Appraisal Committee concluded that the balance of desirable and undesirable effects was probably in favor of surgical treatment, although the advantages were of little clinical relevance. However, selected patient groups might benefit more from surgery.

The health economic analysis included a *de novo* cost analysis and a budget impact analysis. Both analyses were limited by shortcomings of the available data. Overall quality of the economic evidence was considered to be moderate. In a model using a 5-year time horizon, the estimated costs of surgical treatment exceeded those of conservative treatment by approx. CHF 7,000 per patient. The estimated budget impact of surgery amounted to approx. CHF 90 million per year in this model. The Appraisal Committee concluded that these resource requirements were large and that the economic evidence probably favored conservative treatment.

Furthermore, patients with rotator cuff tears are a heterogeneous group, and patient values may be variable. Both surgical and conservative treatments were judged to be acceptable and feasible in Switzerland, and there was no major concern with respect to health equity. Based on the limited evidence available, the Appraisal Committee issued a conditional recommendation in favor of surgical treatment of rotator cuff tears.