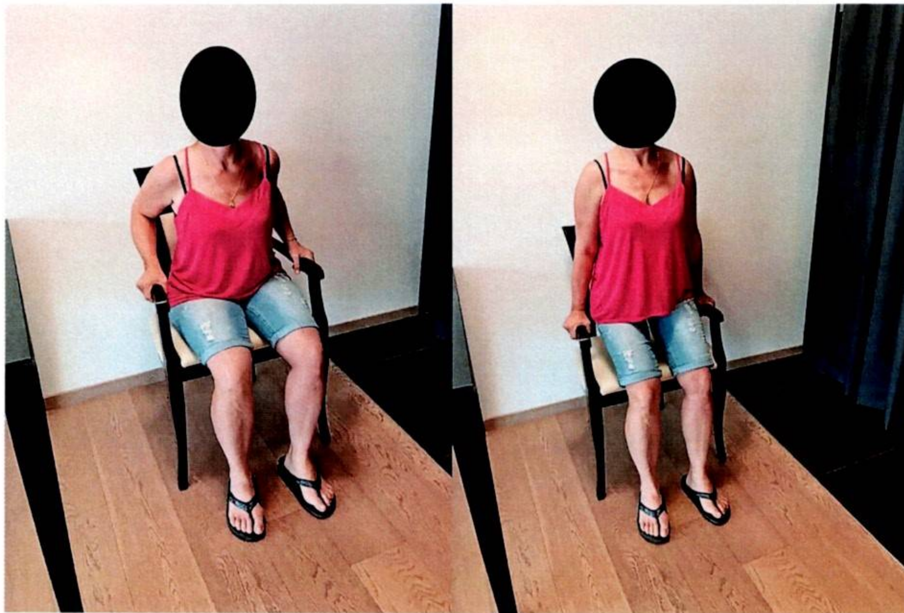

Figure 11. Strengthening of the back with exercises on a chair.

Over time, and similarly to the evolution observed in knee rehabilitation, the duration of immobilization has progressively decreased, while early mobilization has become widely accepted among shoulder specialists.

In our practice, early mobilization was introduced as early as 1986, evolving toward immediate postoperative mobilization in the 2000s. This approach has consistently resulted in faster functional recovery and earlier return to daily and sporting activities.

However, prolonged immobilization remains common in many settings and continues to be associated with delayed recovery and increased stiffness. Early passive mobilization, combined with minimal immobilization, appears to improve both the speed and quality of functional recovery.

Several studies support this approach. Tirefort et al. [8] demonstrated that the absence of postoperative immobilization after rotator cuff repair is associated with improved early mobility and functional outcomes compared to sling immobilization. Similarly, Klintberg and Gunnarsson [9], in a randomized study of 114 patients, reported improved early range of motion in patients undergoing early mobilization, without differences in long-term outcomes or strength.

Denard and Lädermann [10] also reported faster recovery following early mobilization after shoulder arthroplasty.

Beyond technical considerations, patient-related factors play a critical role. Motivation and adherence to self-rehabilitation significantly influence outcomes. Levins et al. [11] demonstrated a strong correlation between patient mental health, engagement in rehabilitation, and final functional results.

Furthermore, the physiotherapist plays a central role in both preoperative preparation and postoperative follow-up, providing valuable feedback to the surgeon and contributing to surgical decision-making. The ability of the patient to actively participate in rehabilitation should be considered when determining surgical indications.

From a health economics perspective, this rehabilitation protocol is cost-effective compared to inpatient rehabilitation programs. However, structured rehabilitation centers may still be necessary in selected cases, such as patients living alone or with limited support.

Ultimately, optimal outcomes rely on close collaboration between the surgeon, physiotherapist, and patient. The physiotherapist acts as a key coordinating element, ensuring adherence, early detection of complications, and continuous communication with the surgical team.

Conclusion

The rehabilitation protocol described in this study is simple, reproducible, effective, and cost-efficient. It is based on a collaborative model involving an experienced surgeon, a physiotherapist trained in shoulder rehabilitation, and a motivated patient actively engaged in self-rehabilitation.

While surgical technique and appropriate indications remain essential, they do not alone guarantee a successful outcome. In shoulder pathology, rehabilitation plays a central role in determining functional recovery.

This experience, accumulated over four decades, supports the concept that structured, early, and patient-centered rehabilitation is a cornerstone of both operative and non-operative shoulder management.

Acknowledgements

– We thank Professor Albert Trillat who encouraged DFG to go and learn about shoulder surgery in North America in 1985.We are deeply grateful to our North-American Teachers and Surgeons, including Charles S. Neer II (New-York, USA), R. Peter Welsh (Toronto, Canada), Richard J. Hawkins (London, Canada), Richard