

in Charleston. The patients received the same protocol as that used for open repairs: immobilization in 30° abduction for 6 weeks, removable at night, early passive mobilization without limitation, except for internal rotation with the hand behind the back for 6 weeks, then assisted active mobilization from the 6th week to the 3rd month postoperatively, then strength training of the depressors of the humeral head. Functional recovery times were comparable to those of an open repair [9].

Today, immediate postoperative passive mobilization without limitation is authorized. Pendular exercises (Figure 8A), complete flexion helped with the contralateral arm (Figures 8B, 8C), external rotation with the elbow to the body and helped with a stick (Figure 8C). Assisted active mobilization begins at the 6th postoperative week (Figures 9A–9D), and muscle training of the extrinsic depressors of the humeral head after the 3rd postoperative month (Figures 10A–10D).

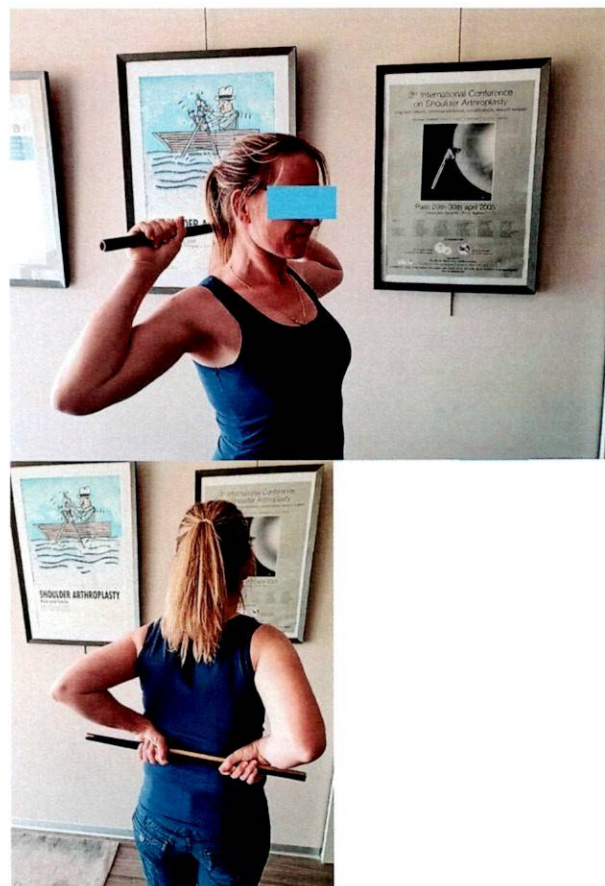
### Rehabilitation of patients with anatomic total shoulder arthroplasty

Peter Welsh in Toronto and Charles Neer II in New York taught us the surgical technique of placing a sliding total shoulder prosthesis, according to Neer's postoperative rehabilitation protocol, focused on immediate postoperative mobilization [4, 5]. The deltopectoral approach, respect for the soft tissues, the meticulous placement of the humeral and especially glenoid implants, care taken in suturing the subscapularis tendon, and a true anterior access to the shoulder – allow immediate postoperative passive mobilization and explain the quality of the functional results obtained: shoulder arthroplasty surgery respects the soft tissues. In the 1990s, we adopted the concept of anatomical prosthesis developed by P. Boileau and G. Walch and used the Aequalis implants.

Since 1986, we have applied these principles: meticulous placement technique, respect for the soft tissues, and early postoperative mobilization. The postoperative rehabilitation protocol used (Figures 11A–11C) is based on the same principles: learning exercises preoperatively, light and removable immobilization, not mandatory at night, immediate postoperative passive mobilization in flexion, external and internal rotation, three times a week with the physiotherapist and 3–4 times a day by the patient in self-rehabilitation, active mobilization assisted with a stick in the first postoperative week, recovery of active mobility at the end of the third postoperative month, then gentle muscle-building exercises. The patient recovers a functional shoulder in the 6th postoperative month.

### The Latarjet-Patte coracoid block in the treatment of anterior shoulder instability

Since 1986, we have been using coracoid transfer in the treatment of recurrent anterior dislocations and stabilization with one screw [7]. We used our rehabilitation protocol starting postoperative passive and active assisted mobilization exercises in flexion, external rotation with the elbow to the body and internal rotation with the hand behind the back. The external rotation in abduction (nap position) was prohibited during the first six postoperative weeks. The immobilization with the elbow to the body has always been non-strict, removable,



**Figure 10.** Assisted active external and internal rotation with a stick.

except at night. The antero-inferior stabilization effect of the humeral head is ensured by a triple antero-inferior locking according to Patte: bony (screwed coracoid transfer), muscular (the short biceps tendon presses the lower third of the subscapularis in abduction-external rotation) and the antero-inferior capsule is tightened (7). The reliability of the fixation of the coracoid stop with a single 4.5 mm cortical screw in compression with a washer and the solidity of the musculo-tendinous sutures, in particular of the subscapularis tendon and capsular with non-absorbable thread, make it possible to mobilize the operated shoulder very quickly and to minimize immobilization of the elbow to the body, however necessary in young sports subjects. The complete recovery of all joint ranges, the absence of complications and postoperative recurrences are due to the combination of a meticulous surgical technique and immediate mobilization allowing a return to contact sports at the end of the fourth postoperative month.

### Discussion

In the 1980s, postoperative rehabilitation of the shoulder was characterized by prolonged immobilization and delayed mobilization, particularly in forward elevation and external rotation. Immobilization with the elbow against the body was often maintained for up to 6 weeks, increasing the risk of postoperative stiffness.