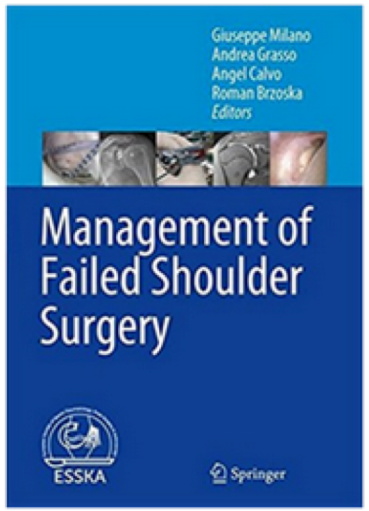

Management of Failed Shoulder Surgery

Herausgeber: **Milano**, G., **Grasso**, A., **Calvo**, A., **Brzoska**, R. (Eds.)

Equips readers to manage failures of surgical treatment of pathological conditions around the shoulder

Offers a special focus on response to failure of shoulder arthroplasty

Uses case examples to present solutions in challenging circumstances

Written by leading European shoulder experts

Reverse Shoulder Arthroplasty: How to Prevent Failure

Eric Petroff and Johnathan Edwards

23.1 Introduction

The indications for shoulder arthroplasties have expanded in the last 10 years. In France, the total number of shoulder arthroplasties performed was 7022 in 2006 to 15,684 in 2015. In many European countries, reverse shoulder arthroplasties (RSA) are used more often than traditional anatomical designed arthroplasties. In the USA, there were 21,940 RSA procedures performed in 2011.

RSA has been successful at minimizing pain and maximizing function for many patients with rotator cuff-deficient shoulders. Because of the success of RSA, the number of complications and revisions has increased as well. Complication rates for RSA are reported as high as 68% with substantially higher complication rates observed in revision surgery [1]. Management of complications associated with RSA is challenging. Surgical revision of a failed or complicated RSA is a high-risk surgery; Boileau showed that 30% of such patients had subsequent complications after reoperation and needed further surgical interventions [2].

Increased use of primary RSA has led to reports of associated problems unique to the procedure. The most common complications include scapular notching, glenohumeral dislocation, mechanical baseplate failure, scapular fracture, loss of external rotation, nerve injury, and infection [3].

Grammont developed his prototype of the RSA in 1985. The Grammont reverse shoulder prosthesis is a semi-constrained traditional implant used in RSA. Complication rates associated with the original Grammont prosthesis were higher than prosthesis of conventional anatomic replacement. Significant efforts have been made to refine surgical implantation method and prosthesis design to decrease complication rates. Several RSA systems are available from various manufacturers with their own specifications. Variables such as neck-shaft angle of the humerus, glenosphere diameter, eccentricity and lateral offset, glenoid baseplate tilt, and component fixation are known to influence clinical outcome and can vary significantly in different implant designs and surgical approaches [1]. Knowledge of these various designs is an important factor in the management of complications and revisions.

23.2 Scapular Notching: How to Avoid It?

Scapular notching is a recognized consequence of RSA and is a mechanical impingement between the humeral component and the lateral pillar of the scapula. Inferior scapular notching is a well-documented complication that is

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G. Milano et al. (eds.), *Management of Failed Shoulder Surgery*,
https://doi.org/10.1007/978-3-662-56504-9_23