Approximately 18,000 hip revision procedures of the acetabular component are performed annually in Germany with rising incidence. The aims of acetabular revision are reconstruction of the anatomic hip center, reconstruction of bone stock, cement-free primary stability of the revision implant in autochthonous bone and permanent secondary integration. Precise planning of the revision surgery is necessary with analysis and classification of the bone defects and reconstruction following a concise therapeutic concept. Cup loosening without bone loss as well as segmental bone defects can usually be reconstructed with standard implants. Cavity defects, especially the common cranio-lateral defects, require the implantation of oval cups or augments to achieve anatomic reconstruction of the hip center. Combined segmental and cavity defects can be reconstructed using oval cups with cranio-lateral plates, whereas acetabular discontinuity requires stable fixation within the iliac wing by means of an intramedullary stem combined with an extramedullary plate. Middle and long term survival greater than 90% can be realized with the use of this therapeutic concept.