Resurfacing arthroplasty is regarded as an attractive method, especially for the young patient who needs a hip replacement. However, the high expectations regarding this new technique in THR must first be met. Earlier experiences with similar forms of surface replacement have led to high revision rates with early aseptic wear induced component loosening and neck fractures. Technical progresses in production techniques for metal-on-metal articulations with minimized wear have enabled the introduction of new surface replacements for the hip joint. Long-term results of these resurfacing arthroplasties are still due. Femoral neck fractures and femoro-acetabular impingement are possible early complications which require revision. The implantation of these systems requires a high degree of operative skill and experience on the part of the surgeon. Approach dependent trauma to the musculature and endangering of the blood supply to the femoral head is balanced with the positive effect of the preservation of femoral bone stock and better options in case of revision. Whether the younger patient with a higher activity profile and an increased chance of implant loosening actually profits from the resurfacing arthroplasty will be determined in the future.