



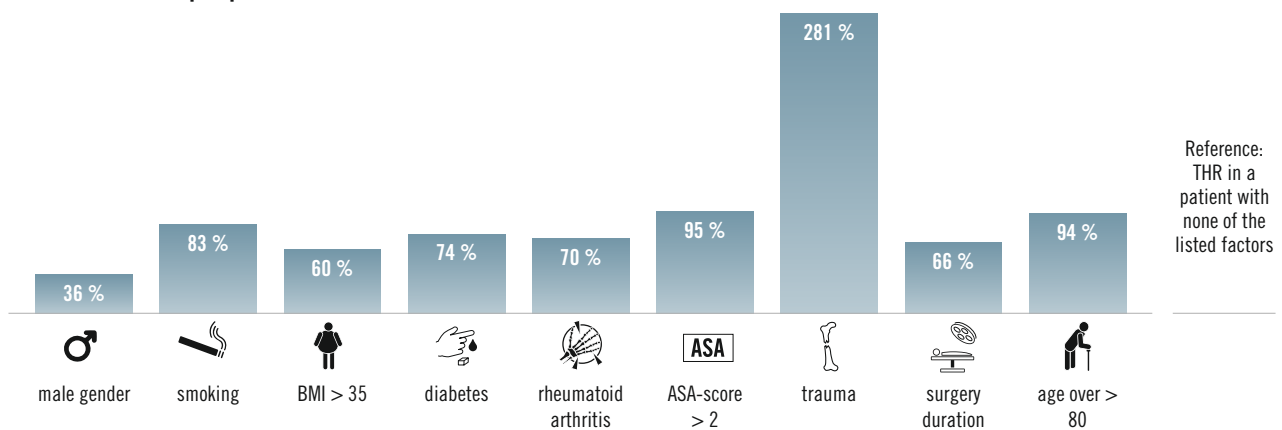
## Dual antibiotic-loaded bone cement is used in patients with a high risk of infection for specific prophylaxis

A glance into the arthroplasty registries as well as experience in hospitals reveals that there is a trend towards increasing age and morbidity of patients receiving artificial hips or knees. Older patients in particular with several concurrent chronic medical conditions are at an increased risk of developing periprosthetic infections. Patient related risk factors include obesity (particularly a BMI > 35), diabetes mellitus, chronic immunosuppression (e.g. due to cortisone), smoking, malnutrition, age over 80 years or colonisation with multi-resistant bacteria.

Operating time (the longer and more invasive, the higher the risk of infection) as well as the general bacterial resistance situation in the hospital are also risk factors.

### Adaptation of the antibiotic strategy in patients at increased risk

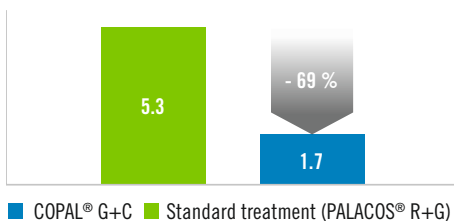
#### Increased risk of periprosthetic infections in %



Graph designed with data from Kunutsor et al. 2016

In special risk situations, adapting the routine of the antibiotic prophylaxis for arthroplasty may be useful. It has been shown that systemic dual peri-operative antibiotic prophylaxis comprising a cephalosporin plus teicoplanin can notably lower the infection rates if the hospital is faced with a high MRSA prevalence.

### Lower rate of infection in patients treated with dual antibiotic-loaded cement



Sprowson et al. 2016: Differences in the rates of infection after treatment of a femoral neck fracture with cemented hip stem

Adaptation of the antibiotic prophylaxis regimen including the use of combinations – in this case locally in the antibiotic-loaded bone cement – can also be an important strategy for infection prevention in at-risk patients. A clinical study from England showed that patients with an increased risk of infection particularly benefit from such measures. In these cases patients with femoral neck fractures underwent emergency treatment with a cemented hip stem. The number of periprosthetic infections that developed was lowered by 69 % compared to the standard treatment, that is cementing carried out with the high-dose dual antibiotic-loaded cement COPAL® G+C instead of the low-dose single antibiotic cement PALACOS® R+G.

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