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## Transcutaneous osseointegrated prosthetic systems (TOPS)-Pain after mobilization: What kind of role does the angle of abduction play?

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Transcutaneous osseointegrated prosthetic systems (TOPS) have been used as an alternative method to the external artificial limbs for patients with limb amputation. Patients with transfemoral amputations very often suffer from pain in the region of their lateral hip following rehabilitation with TOPS after starting full weight bearing. We suppose a dependency between this pain and the malposition of the residual femur bone which tends to abduction. When socket prosthesis is used, weight bearing doesn't have a direct effect on the bone. The energy is spread to the soft tissue. Due to the inevitable missing at least of parts of the mm. adductoris, there often exists a lateral deviation of the residual femur. Additionally, there is an atrophy and contraction of the muscles surrounding the hip joint. Using TOPS, the patients perform full weight bearing direct to the bone which comes much closer to physiological walking. At the same time, the lateral muscle groups are getting under painful tension. In our study we are going to investigate a correlation between the development of pain enclosing the hip joint and the changed angle of abduction comparing it to the former use of socket prosthesis. We would like to show that physiotherapy in advance might reduce or even eliminate the pain.

## Biography

Marcus Orgel was a student of human medicine at the University of Heidelberg, Germany from 10/2007 - 10/2014, he was also a resident at the clinic for trauma surgery (Prof. Dr. med. Christian Krettek) during 06/2015 at Medical School Hannover, Germany and he is the deputy head of the section for endo-exo-prosthetic, clinic for trauma surgery (Prof. Dr. med. Christian Krettek) from 02/2017 at Medical School Hannover, Germany.

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