

### Free Papers B

#### [O21] INDICATIONS FOR AND PROBLEMS WITH BONE-DEFECT-RECONSTRUCTION WITH THE MASQUELET-TECHNIQUE

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**Aim:** Which patients is bone-defect-reconstruction with the Masquelet-technique suitable and which problems did we see?

**Method:** From 11/2011 to 4/2016 we treated 49 Patients (12f/37m) with bone-defects up to 150mm after septic complications with the Masquelet-technique. We had infected-non-unions of upper and lower extremity, chronic osteomyelitis, infected knee-arthrodesis and upper-ankle-empyema. On average the patients were 48 (8-74) years old. The mean bone-defect-size was 60 mm (25-150). From other hospitals came 47 of the 49 patient, where they had up to 20 (mean 4,9) operations caused by the infection. The time before transfer to our hospital was on average 177days (6-720). 40 patients received flaps because of soft tissue-defects (12 free flaps, 28 local flaps). 21 patients suffered a polytrauma. In 8 cases the femur, in 4 cases a knee-arthrodesis, in 34 cases tibia, in 2 cases humerus and in 1 case the ulna were infected resulting in bone defects. Indication for the Masquelet-technique was low-/incompliance in 35 cases due to higher grade of traumatic brain injury and polytrauma and difficult soft-tissue conditions, in 9 times problems with segment-transport and in 5 cases as dead space management. Positive microbial detection succeeded in 32 patients at the first operation. Mainly we found difficult to treat bacteria. After treating the infection with radical sequestrectomy, removal of foreign bodies and filling the defect with antibiotic loaded cementspacer and external fixation we removed the spacer6-8 weeks later and filled the defect with bonegraft. In 23 cases we stabilized the defect then with an internal anglestable plate. All patients were examined clinically and radiologically every 4-6 weeks in our outpatient-department until full weight bearing, later every 3 months .

**Results:** In 41 of 49 cases the infection was clinically treated successfully. 21 patients are allowed for full weight bearing (all with secondary internal plates). There were 8 recurrences of infection, 22 instabilities needing internal stabilization and further bonegraft. We saw "Plate-breaks" in 4 cases. 2 patients underwent amputation.

**Conclusions:** For patients with low-/incompliance for various reasons and for those with difficult soft tissue conditions following flaps the Masquelet technique is a valuable alternative to the normal bonegraft and to the segmenttransport. The stiffness of the new Masquelet bone like a rod is a problem. Internal fixation is often necessary.