

# MAGGOTS: THE (RE) SEARCH FOR EVIDENCE

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In trauma surgery severe injuries with open fractures and infected wounds are still a hard to treat. Despite improvement of standard care chronic infected wounds are related to long term and even limb threatening complications. Postoperative infection after trauma or orthopaedic surgery still can lead to major and invalidating amputations caused by osteomyelitis. Posttraumatic chronic osteomyelitis is often related to damage to vascular injuries causing reduced perfusion. Bacterial specimens like *S. aureus*, *S. epidermidis* and *Ps. Aeruginosa* are related to biofilm formation on orthopaedic implants in the postoperative course. Although surgical procedure like repetitive debridement and lavage is the corner stone for infection treatment, the rate of recurrence for a deep infection, e.g. for osteomyelitis is still reported for more than 50 per cent. Since increasing resistance of many bacterial specimens to antibiotic therapy especially in hospital care, an old fashion treatment with sterile maggots now got new attention since the nineties of the last century. If there is a severe infection, alternatively to regular standard treatment as a first step after surgical debridement larval debridement therapy can be started. Maggot excretions seems to be very effective to combat severe infections and can reduce biofilm formation of *S. aureus*, *S.epidermidis* and *Ps.Aeruginosa* on orthopedic implants containing stainless steel, titanium or polyethylene<sup>(1)</sup>. Furthermore maggot excretions can influence the cellular response of human leucocytes<sup>(2)</sup>, improve the action of antibiotic substances<sup>(3)</sup> and modulate immunologic action of human complement system<sup>(4)</sup>. Larval debridement therapy can shorten the time of treatment of infection, shorten hospital stay and reduces the number of surgical procedures needed to subside clinical signs of infection. Despite the whole mechanism of action of maggot debridement therapy is not fully understood so far, results of clinical and basic research are encouraging supporting improvement in patient outcome.

## References:

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