

# French study suggests maggots may clean wounds faster than surgery

December 21 2011, by Bob Yirka

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Image: National Institutes of Health

(Medical Xpress) -- For thousands of years, people have used maggots to clean out wounds, particularly in battlefield situations when there were few other options. Use of maggots (fly larvae) virtually disappeared in the modern world though once antibiotics arrived on the scene, but that may change as a new study conducted by a team in France has shown that at least for some types of wounds, maggots may be the preferential form of treatment. The team, made up of doctors and researchers from various facilities in France, conducted a study with elderly male volunteers who had lower leg wounds or skin ulcers that weren't healing well, and as they describe in their study published in *Archives of Dermatology*, the patients that were treated with maggots, fared better, at least in the first week, than did those treated with conventional surgical

procedures.

In order to reproduce, flies lay their eggs in the carcasses of dead animals. The eggs develop into maggots which eventually grow into adults by eating the meat in which they exist. To accomplish this feat they secrete a substance into the dead tissue that helps to break it down first. The maggots then simply eat the result. When introduced into injured human flesh, the maggots perform the same trick, eating dead flesh while leaving healthy flesh alone, though not necessarily in the same fashion. In the wild, as anyone that has stumbled upon the carcass of a dead animal and found it literally crawling with the small rice looking [larvae](#) knows, it's a truly stomach retching sight. In a medical environment, on the other hand it can be a truly innocuous experience.

In the study, the team split up a group of 119 men into two groups of close to 50 each; one group received conventional surgery to repair their wound, while the other received maggot therapy. Both were kept in the hospital for two weeks and both were blindfolded during treatment.

In the surgical procedure, a scalpel is used to cut away dead flesh, along with some that is not dead. The maggot procedure is done by pressing a bag that has sterile maggots in it against a wound which has first been covered by a thin film to protect against infection. Thus, the maggots are not free to crawl around inside of the patient.

Afterwards, in looking at the results, the team found that those patients that had received maggot therapy, for the most part, showed better results at the end of the first week. After that, there was no discernible difference in the two procedures. In this context, better results meant there was less slough (dead matter) in the wound (54.5% vs 66.5%) and more apparent healing.

The team noted that roughly half of the people in both groups reported a

crawling-around feeling in the wound, and most agreed the pain involved was minimal.

This one study suggests that more research needs to be done regarding the use of [maggots](#) in healing wounds, because despite the ick factor; people should have access to the best possible treatment. Thus far, little has been done though. In the United States, for example, despite the fact that the FDA gave approval for use of maggot therapy back in 2004, little testing, research or actual procedures have been carried out and some patients, [such as those with diabetes](#) or those that cannot abide anesthesia, have likely suffered for it.

**More information:** Maggot Therapy for Wound Debridement, *Arch Dermatol*. Published online December 19, 2011.  
[doi:10.1001/archdermatol.2011.1895](https://doi.org/10.1001/archdermatol.2011.1895)

## Abstract

**Objective** To study the efficacy of bagged larvae on wound debridement compared with conventional treatment.

**Design** Randomized, multicenter, controlled, prospective phase 3 trial with blinded assessment of outcome measures by a single observer.

**Setting** Two hospital referral centers in Caen and Lyon, France.

**Patients** Random sampling of 119 patients with a nonhealing, sloughy wound 40 cm<sup>2</sup> or smaller, less than 2 cm deep, and an ankle brachial index of 0.8 or higher.

**Intervention** During a 2-week hospital stay, patients received either maggot debridement therapy (MDT) or conventional treatment. At discharge, conventional dressings were applied and a follow-up visit occurred at day 30.

**Main Outcome Measure** Percentage of slough in wounds at day 15.

**Results** There was a significant difference between groups at day 8 (54.5% in the MDT group and 66.5% in the control group) ( $P = .04$ ).

The mean percentage of slough at day 15 was 55.4% in the MDT group

and 53.8% in the control group ( $P = .78$ ).

**Conclusions** Although MDT shows no significant benefit at day 15 compared with conventional treatment, debridement by MDT is significantly faster and occurs during the first week of treatment. Because there is no benefit in continuing the treatment after 1 week, another type of dressing should be used after 2 or 3 applications of MDT.

Trial Registration [clinicaltrials.gov](https://clinicaltrials.gov) Identifier: NCT01211236

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