

# Maggot Therapy

The Role of Maggots in Modern  
Wound Therapy

# Methods of wound debridement

- Surgical or sharp debridement.
- Enzymatic agents (e.g. Varidase)
- ‘Slough busters’ (e.g. Eusol)
- Autolytic debridement (e.g. hydrogels)
- Biosurgery (maggot therapy)

# When all these techniques are available, why use Biosurgery?

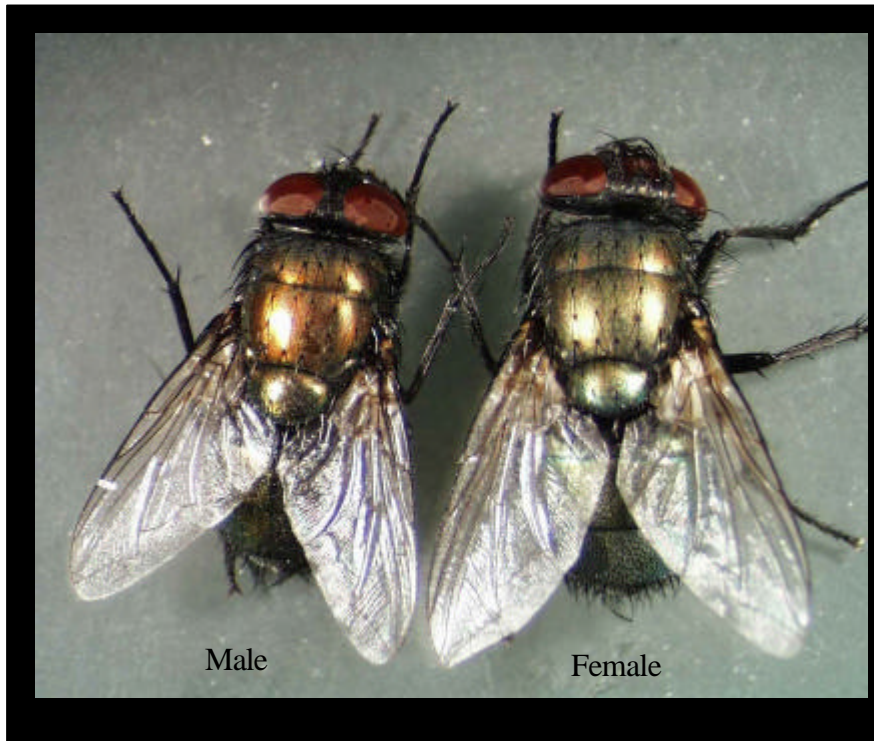
- Conventional debriding agents act too slowly
- Alarming increase in bacterial resistance to some chemotherapeutic agents used to treat infected wounds

**Maggots address both of these issues**

# Biosurgery or maggot therapy;

A carefully controlled, artificially induced benign myiasis, in which the medical practitioner aims to take advantage of the natural ability of maggots to break down and ingest infected or necrotic tissue.

The mother and father of all wound debridors!



*Lucilia sericata*, the common green bottle, used for the production of *LarvE*.

## Mouth parts of *Lucilia sericata*

### Feeding Mechanisms

Maggots, contrary to popular belief, do not have teeth and therefore cannot actively 'chew away' dead tissue.

They feed mainly by a process of extra-corporeal digestion, secreting collagenases and trypsin-like and chymotrypsin-like enzymes that breakdown necrotic tissue into a semi-liquid form that the creatures can ingest.

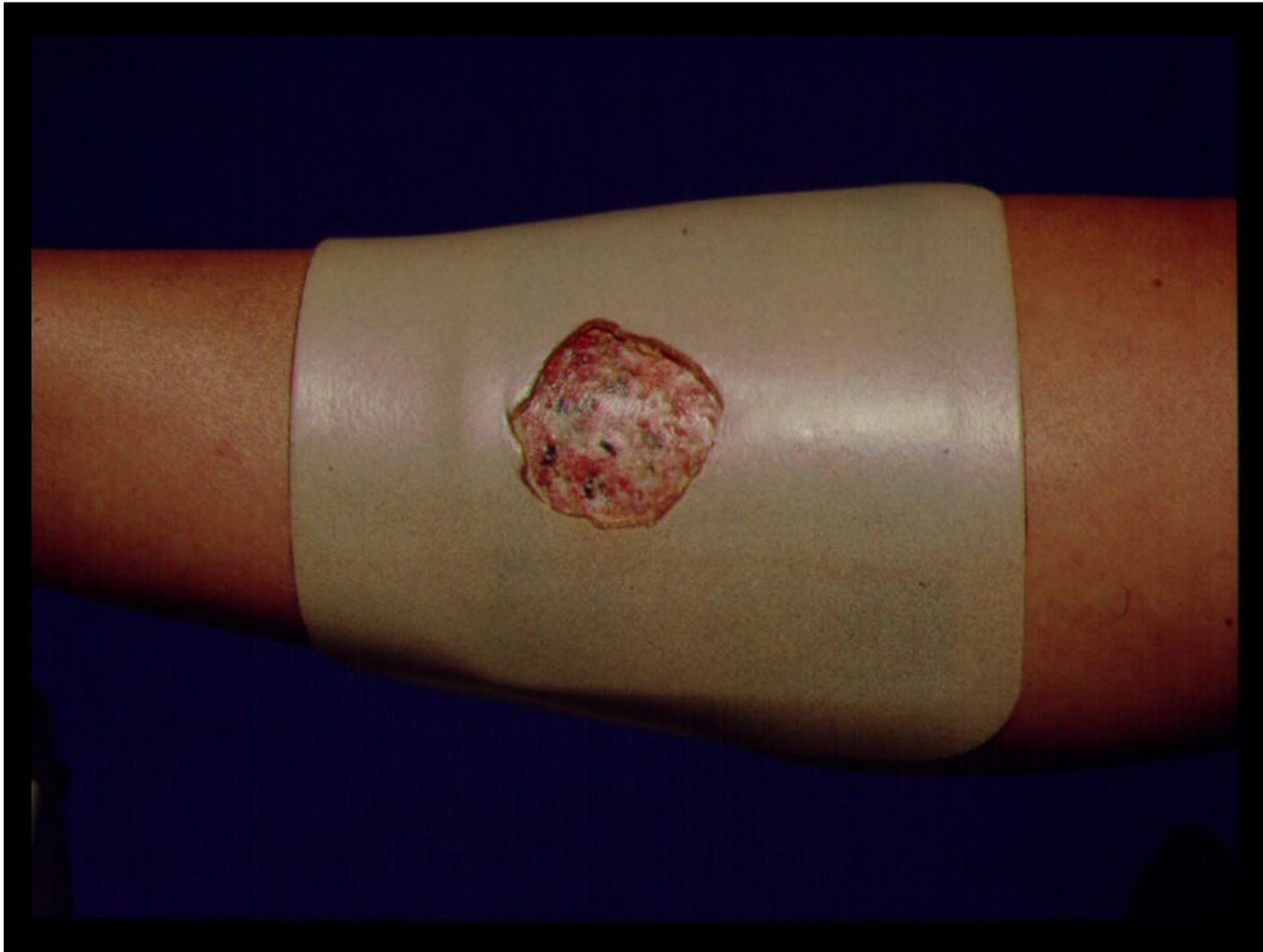


# Antimicrobial activity of maggots

Maggots kill or inhibit the growth of bacteria in wounds by at least three different mechanisms.

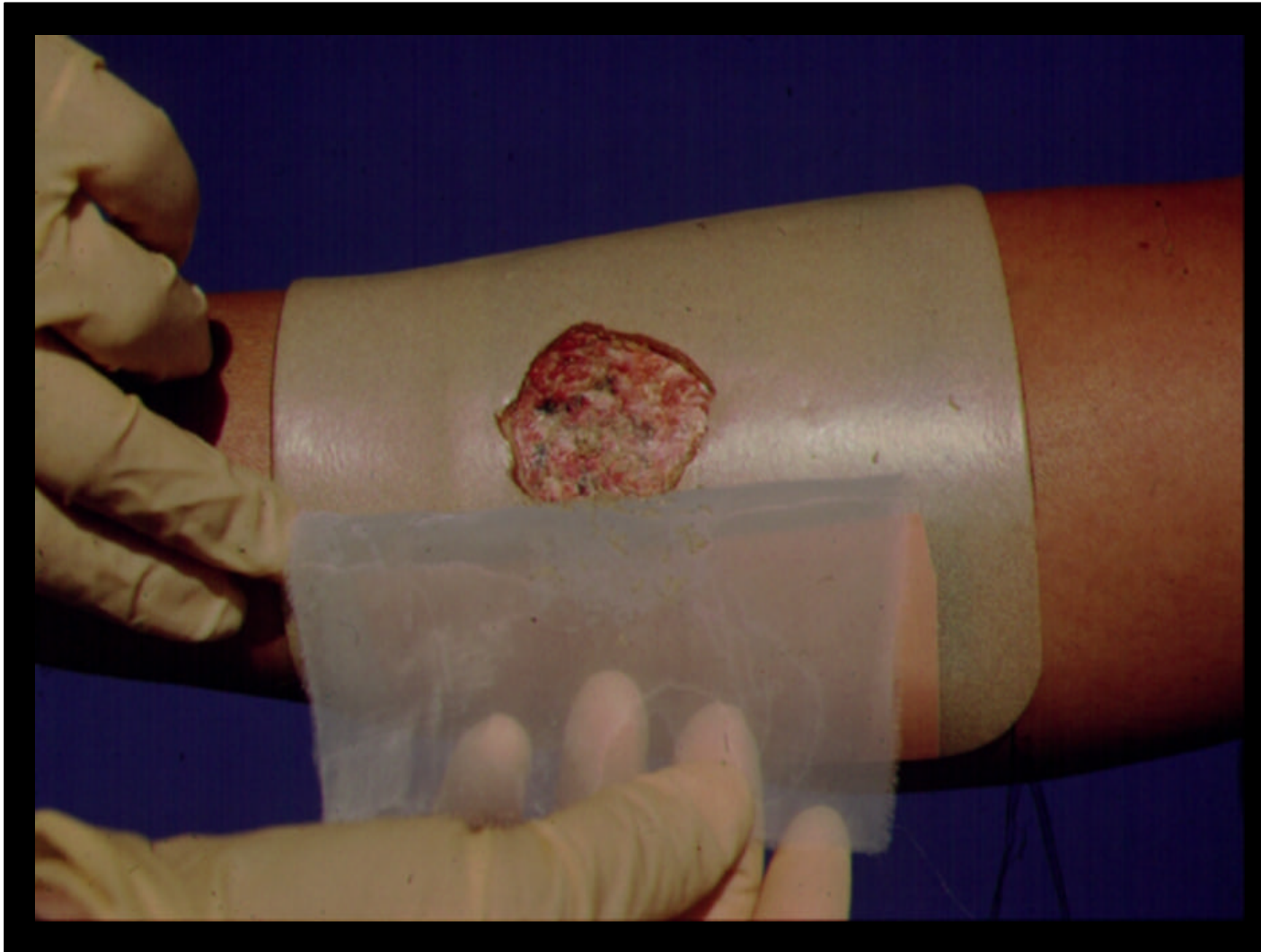
- Production of natural antimicrobial agent
- Changing pH of wound by excretion of ammonia
- Ingestion of live bacteria which are subsequently killed in their gut

## Layer of hydrocolloid dressing in position

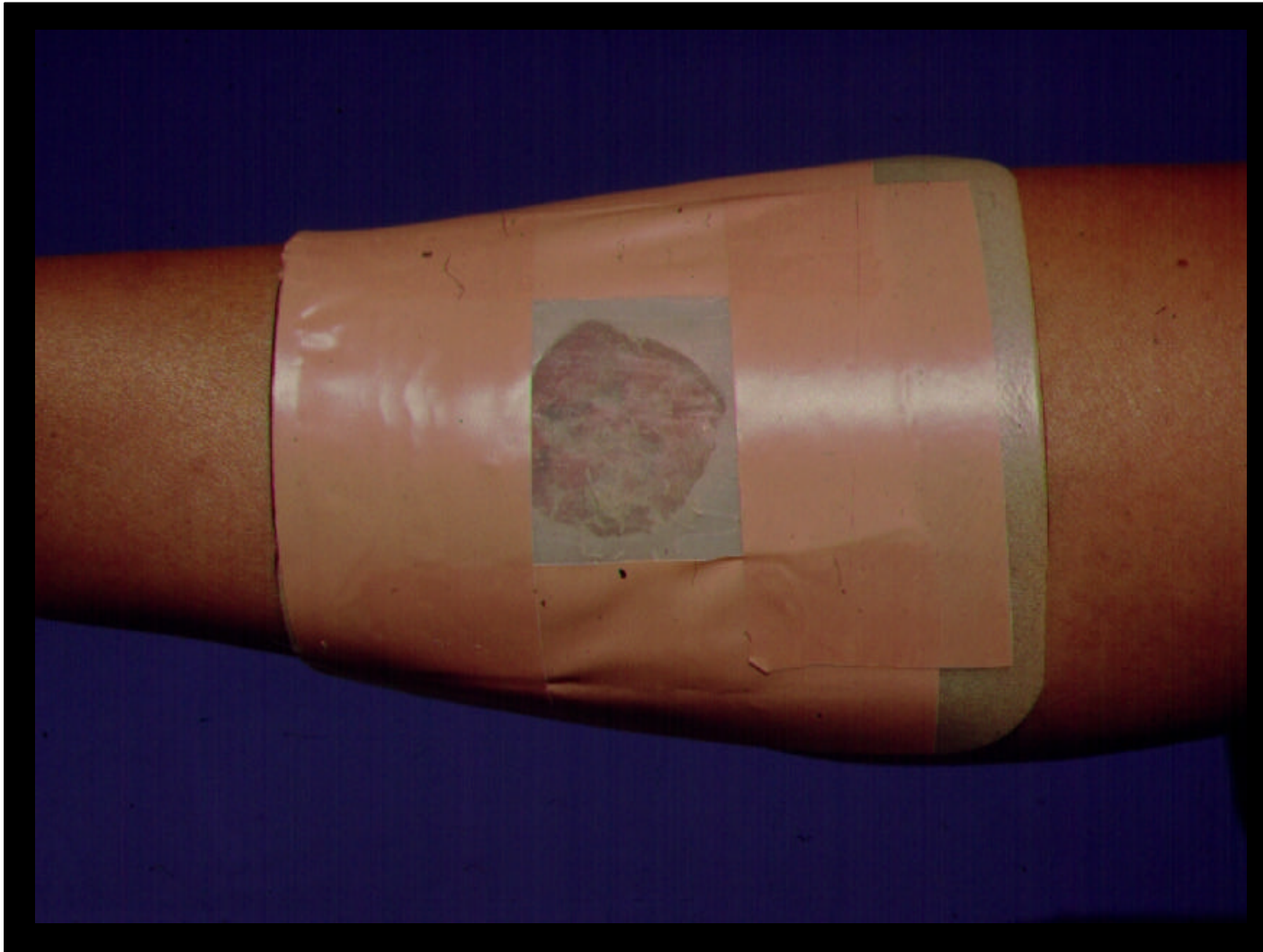




## Application of net to hydrocolloid dressing



## The completed dressing



# Clinical experiences with *LarvE*

# Sloughy leg ulcer 7-5-96



## Ulcer after two days treatment with *LarvE*



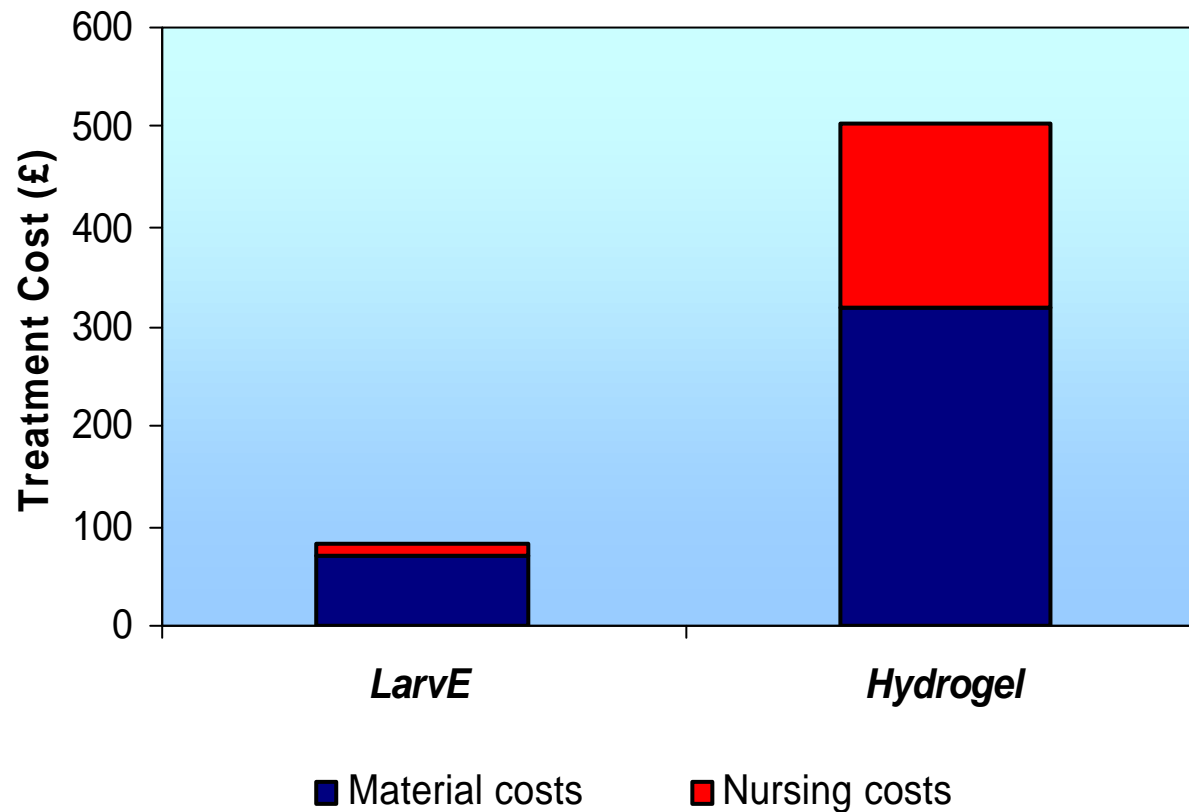
## Protecting skin around venous ulcer with zinc paste



## Wound after one application of maggots



# Average cost to successfully debride one wound with maggots and hydrogel





# Indications for the use of *LarvE*

*LarvE* are suitable for the treatment of most types of sloughy or necrotic wounds regardless of aetiology.

They are also of value in the management of infected wounds, including those containing antibiotic-resistant strains of bacteria such as MRSA.

# *LarvE*: Clinical benefits

Medicinal maggots offer numerous advantages in the management of problem wounds.

- They promote rapid debridement
- They facilitate the removal of pathogenic bacteria.
- They reduce odour and sometimes pain
- It has been suggested in the literature that they may accelerate wound healing by promoting the formation of granulation tissue.

# Disadvantages of maggot therapy

- They have a short shelf life and cannot be stored prior to use.
- Some clinicians and patients find them unacceptable (The 'Yuk' factor!)
- They can be a 'run away' dressing