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The Hidden Efficiencies of Maggot Debridement Therapy

- **Introduction**

- A. Background Information:

- a. **Point 1:** Known as MDT - An alternative Treatment method
 - b. **Point 2:** First introduced in 1500s in french military
 - c. **Point 3:** More necessary due to increase in antibiotic resistant infections.
 - d. **Point 4:** Numerous studies cover various benefits of MDT and push for increased use.
 - e. **Point 5:** FDA approved for use by prescription in 2004.
 - f. *Potential Sources to Be Used:* CDC, FDA,

- B. Thesis Statement: MDT is more effective than conventional wound treatment as it aids in quicker healing of chronic wounds, is more cost-effective, and there's a lower risk of wound complications.
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I. **Total Healing Time**

- A. *Supporting Detail*: Noticeable increase in use of the therapy in recent years

- 1. *Reason Why This Relates to Thesis*: Direct result of increase in antibiotic resistant infections.
 - 2. *Example*: MRSA

3. *Quote*: “MDT was more effective for chronic venous ulcers, diabetic ulcers, and pressure ulcers”

4. *Source*: Chan 2007 article, page 384

B. *Supporting Detail*: Efficiency compared to traditional wound care protocol.

1. *Reason Why This Relates to Thesis*: The longer the wound is infected, the longer the patient will be incapacitated.

2. *Example*: MDT versus Hydrogel study

3. *Quote*: At the two week mark within the hydrogel group, no significant improvement was reflected.

4. *Source*: Chan’s 2007 article - page 380

C. *Supporting Detail*: 4 Phases to Healing

1. *Reason Why This Relates to Thesis*: Normal Healing Times per traditional methods of treatment.

2. *Example*: Normal healing time for wet to dry

3. *Quote*: MDT is most normally requested when homeostasis cannot be achieved with normal methods.

4. *Source*: Chan’s 2007 article p. 382

II. Fewer Costs

A. *Supporting Detail*: Cost compared to traditional method

1. *Reason Why This Relates to Thesis*: Decreased resources needed for MDT

2. *Example*: Less dressings, fewer changes, etc.

3. *Quote*: “the annual cost of management for wounds exceeds \$20 billion, not including the loss of two million work days”

4. *Source*: Sherman 2009 article p. 336

B. *Supporting Detail*: Insurance companies seek lower cost treatments

1. *Reason Why This Relates to Thesis*: MDT more cost effective than traditional methods.

2. *Example*: See below.

3. *Quote*: MDT, on average, costs nearly 84% less than traditional treatments.

4. *Source*: 2007 Chan p. 367

C. *Supporting Detail*: Fewer complications

1. *Reason Why This Relates to Thesis*: lowers time needed to be in facility and receive care

2. *Example*: CDC report on alternative wound care strategies

3. *Quote*: “The reduction in total costs could be attributed to reduced debridement times as well as reduced number of hospital visits or bed days, all of which resulted in significant savings”

4. *Source*: Whitaker 2007 article

III. **Decreased Complications**

A. *Supporting Detail*: Maggots naturally eliminate bacteria, leading to fewer antibiotic resistant infections.

1. *Reason Why This Relates to Thesis:* Fewer antibiotic resistant infections lead to shorter hospital stays for patients (and decreased patient load which increases quality care).
2. *Example:* Type Here
3. *Quote:* Currently Looking.
4. *Source:* Type Here

B. *Supporting Detail:* Decreased risk of amputation.

1. *Reason Why This Relates to Thesis:* because of antimicrobial nature, fewer cases of amputation necessary following treatment.
2. *Example:* Amputation is normally a last option.
3. *Quote:* “MDT is only used as a last resort on patients that are prime candidates for amputation, on average, limb salvage rates were between 40-50%”
4. *Source:* Sherman article p. 608

C. *Supporting Detail:* Decreased Infection Rate

1. *Reason Why This Relates to Thesis:* Decreases number of complications due to natural maggot secretions.
2. *Example:* Essential steps in wound healing is debridement and removal of necrotic tissues.
3. *Quote:* larvae can “wash out” a wound bed by ingesting infectious tissue, and excreting their enzymes.
4. *Source:* Sherman article 2009

- **Conclusion**

- A. **Paraphrased Thesis:** Maggots have made an enormous comeback in the medical world; they have proven time and time again to be a safe, effective and low cost alternative treatment for chronic, non healing wounds.
- B. **Paraphrased Point 1:** One of the most essential steps in wound healing is the debridement and subsequent removal of necrotic tissues.
- C. **Paraphrased Point 2:** The use of sterile maggots in comparison to traditional applications of hydrogel dressings.
- D. **Paraphrased Point 3:** There is now a larger picture of what maggots can do when introduced to a problematic wound early including removing infectious bacteria and healing previously unchanged, chronic wounds to potentially save a limb that might have been previously written off as unsalvageable.
- E. **Restated Thesis:** Maggots may very well change the future of wound care by decreasing healing time, costs, and common complications.

Working References

- Chan, D. C., Fong, D. H., Leung, J. Y., Patil, N. G., & Leung, G. K. (2007). Maggot debridement therapy in chronic wound care. *Hong Kong Medical Journal*, 13(5), 385-386. Retrieved March 14, 2018, from <http://hdl.handle.net/10722/57412>
- Sherman, R. A. (2009). Maggot therapy takes us back to the future of wound care: New and improved maggot therapy for the 21st century. *Journal of Diabetes Science and Technology*, 3(2), 336-344. Retrieved March 14, 2018, from www.journalofdst.org.
- Whitaker, I. S., Twine, C., Whitaker, M. J., Welck, M., Brown, C. S., & Shandall, A. (2007). Larval therapy from antiquity to the present day: Mechanisms of action, clinical applications and future potential. 409-413. doi:10.1136/pgmj.2006.055905