# Aggressive Conservative Wound Care: Heal Wounds, Don't Amputate Them

H. David Gottlieb, DPM, DABPM, FAPWCA; Hye Kim, DPM; Amanda Walsh, DPM

VA MARYLAND HEALTH CARE SYSTEM

## CONCEPT

Healthy people with normal protoplasm usually do not develop wounds. When they do, these wounds heal uneventfully. Healthy people heal wounds generally without problems and in a 2 to 3 week period. Unhealthy people, patients with multiple co-morbidities, those with 'poor protoplasm', do not heal as well nor as quickly and they will frequently develop wounds from what would otherwise be non-noxious stimuli in the healthy person. Healing wounds in the healthy or fairly healthy patient is easy. Just about anything will allow the body to proceed with the biologic cascade of wound healing and re-epithelialization. Wound healing in the sick or compromised host becomes more challenging as the list of co-morbidities increases. It is no longer a matter of staying out of the body's way to allow the natural healing processes to occur. It is now a matter of not only encouraging growth and healing but also actively promoting it. of providing what the body lacks, of stimulating the body to do what it can't do on its' own.

**Aggressive Conservative Wound Care** is a powerful method to heal wounds in patients who have complex, recalcitrant, non-healing wounds.. Combination serial and concurrent therapies are used. This method works by safely removing nonviable tissues and leaving viable tissues intact. The body can then respond with angioneogenesis and new tissue formation at it's own, self determined, safe rate. Dressings and modalities are combined and used concurrently for both a symbiotic and synergistic result.

Presented here are cases which illustrates the concept of **Aggressive Conservative Wound Care** quite well. When the primary author first encountered this patient the patient was quite ill and considered to be close to expiring. The patient was wheelchair bound [literally. If he hadn't been strapped down the patient would have fallen out of the wheelchair] and could only maintain brief periods of consciousness. He had a cardiac ejection fraction of 20%. He had undergone bilateral TMA's a few months previously that had dehisced. The patient presented with open necrotic wounds to both TMA sites. The advice that was given to the primary author when he inquired about 'just what am I supposed to do?' was "Don't be the one to kill him."

The guiding principles in **ACWC** are 5 fold. Multiple factors are addressed concurrently rather than one at a time. These principles are:

1. Removal of necrotic tissues.
2. Restoration of maximum vascularity possible.
3. Prevention/treatment of infection.
4. Creating and maintaining a local environment conducive to healing.
5. Promoting re-epithelialization resulting in skin closure.

And then there is #6: Preventing re-injury.

**Concept in Action**

Using a single modality of wound care at a time can be a poor decision in chronic wound healing. Chronic wounds lack the macrophages, neutrophils and fibroblastic activity in the wound bed needed for healing. This results in increased protease and hostile growth factor production, and creation of incompetent non-mitogenic cells. These case studies demonstrate how combining multiple healing methods work synergistically. Initially by preparing the wound bed, then later forming a granulating vascular bed which is followed by the application of advanced biological products to heal the wound. The modalities provided on any one particular visit are based on the state of the wound that day. Therefore it is possible that very different treatments could be provided one visit to the next.

Not all patients are candidates for surgical care or aggressive debridement due to their other health issues. **Aggressive Conservative Wound Care** provides a framework about which an effective treatment plan can be implemented for these patients. The case below is one such case where further surgical intervention would be unwise.

## Aggressive Conservative Wound Care Cases

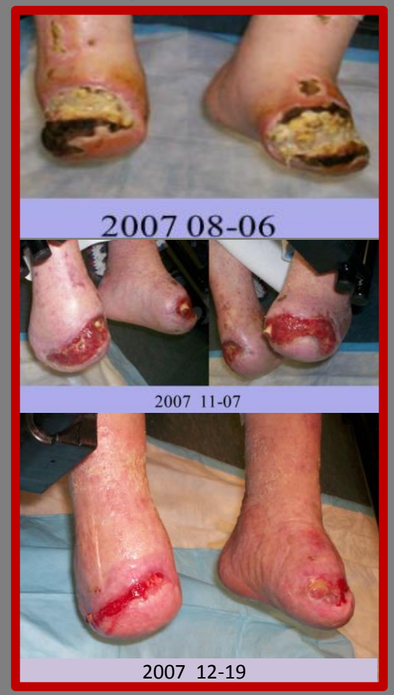
**Case 1** is a 62 y.o. male, whose comorbidities included diabetes mellitus, congestive heart failure, hyperlipidemia, hypertension, PVD, and heavy smoking. He had bilateral angioplasties in January 2007, with a cardiac ejection fraction of 20%. He underwent a CABG in February 2007. This was followed by arterial thromboembolism to both lower extremities and resultant gangrene to his forefeet. Bilateral TMA's were performed in March 2007 followed by Right Lisfranc in April with revision in May 2007. Not being cleared for surgical treatment we initiated a course of Agressiive Conservative Wound care. Over a course of 6 months we were able to heal his wounds.

**These methods were used during treatment, usually in combination, at any one time:**

Sharp debridement by cold steel and VersaJet; Betadine soaked gauze dressings; Accuzyme* and mupirocin; Negative Pressure Wound Therapy [NPWT ]; Hibiclens scrub at dressing changes; Prisma, Aquacel Ag, Alloderm, Integra and Oasis wound matrix along with Mepitel, Aquacel, Acticoat;

**Patient was healed with both legs intact despite the initial expectation of a double BKA or AKA.**

**papain/urea enzymatic debrider currently off market*




**Case 2** is a current case. This patient is a xy yo male who is wheelchair dependent and multiple co-mobidities, including diabetes, morbid obesity and PVD. He developed wound on the plantarlateral aspect of both feet. These eventually had bare bone visible. He refused amputation and was not cleared for surgical debridement. Aggressive Conservative Wound Care was initiated. Serial clinic based debridements were done and negative pressure wound therapy was used. Activated collagen products and xenografts were applied. Multiple and ongoing cutaneous applications of vancomycin and gentamicin in a Gelfoam carrier are applied weekly. Vascular tissues have regrown and has covered the bone. Laboratory findings indicate no active infection. The wounds are filling in and healing. Care guided by the 5 principles of Aggressive Conservative Wound Care has avoided amputation and is poised to fully heal these wounds.


Actual treatment setups for two different clinic patients guided by the principles of ACWC. Each item used has a purpose that works synergistically with the other items. This creates and promotes a healing, regenerative, environment for wound repair.


## CONCLUSION

The five principles of ***Aggressive Conservative Wound Care*** when applied to patients with wounds can save limbs in patients too debilitated to bring to the OR as well as those who have been difficult to heal. This concept and technique is applicable to a range of patients including those with chronic non-healing wounds.

## REFERENCES

Belch JJ, Topol EJ, Agnelli G, et al. Critical issues in peripheral arterial disease detection and management: a call to action. Arch Intern Med. 2003;163(8):884-92

Wolcott, Randall. Bio-Film Based Wound Care, chapter in Wound Care Practice, 2007, Best Publishing Company.

None of the authors have any financial interest in any product used during the course of treatment.

**H. David Gottlieb, DPM DABPM, FAPWCA**
Wound Care Specialist VAMHCS
Hye Kim, DPM PGY2 VAMHCS
Amanda Walsh, DPM PGY1 VAMHCS