

# SYNERGY

THE VOICE OF THE AMERICAN PROFESSIONAL WOUND CARE ASSOCIATION



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## President's Report

Robert Gunther, DPM, FAPWCA, President



Robert Gunther,  
President

On behalf of the Board of Directors, we wish all of our members a wonderful summer. Hopefully most of us will be able to enjoy some vacation time with our families. We also have a number of members currently serving in the armed services with some of those stationed overseas. We wish all of you peace and a safe return home to your families.

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Attentive Audience at General Session

## Executive Director's Report

Steven R. Kravitz, DPM, FAPWCA, Executive Director



Steven R. Kravitz,  
Executive Director

This is the first year the APWCA National Conference is tracking CME/CE for members who attend our annual spring conference and applying this to the requirement that members obtain a minimum of 21 credits in wound care every three years to be designated as a Fellow, Diplomate or Associate. This is a great benefit and convenience for members attending our annual conference.

We are initiating a random audit of a percentage of members for demonstrating

## Feature

### Running A Successful Wound Care Center

Judy Lajoie, RN, CWS, CDE, ACHRN, DAPWCA

There was a time when you could say, "another day, another dollar". That is no longer true in the times we live and work in today. Another day could mean another dollar lost instead of gained. Running a successful wound care center is a very delicate balance of what comes in and what goes out! The team must be just that: a group working collaboratively to achieve reasonable goals within reasonable time frames. Knowing what works, what doesn't work and when to look for something else that succeeds is all very important to the achievements of both the center and healing outcomes.

You could have an aesthetically beautiful center that patients love to come to

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they have met the minimum 21 CME/CE requirement. Those who attended our 2007 National Conference held this past April will be cross matched should they be selected for a random audit. At that point, the audit would be terminated assuming that member turned in proper paperwork indicating he/she attended at least 21 hours or more of the 35 CME/CE hours that were available this past April. Attending our annual seminar has many benefits.

Call for oral and poster abstracts for APWCA 2008 in March and the WUWHS June 2008, Toronto Canada as referred to in Dr. Gunther's report in this issue of Synergy. More information is found on our

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# President's Report *(continued from page 1)*

Robert Gunther, DPM, FAPWCA, President

It has been a very busy year since the summer of 2006. Significant growth has resulted in membership of more than 2,000 professionals representing every discipline involved in treating patients with complex and problematic wounds. The APWCA continues to attract increasing international membership; and is implementing a program to encourage more members from developing countries.

Our 2007 National Meeting was another benchmark with total attendance of approximately 700 people including registrants from nearly every state in the Union and an increasing number from other countries. Nearly 45 faculty members participated. Reviews from registrants as well as exhibitors were overwhelmingly favorable. Many plan to attend the APWCA 2008 to be held in Fort Worth, Texas, March 6th through 9th. The pre-conference courses this past April were well attended; the general sessions covered a multitude of aspects involved in treating our patients, and for the first time a full day of post-conference courses that were well received. Among the highlighted events were the Keynote Address by Drs. R. Gary Sibbald and



*This year's poster session had lots of participation and was well attended.*



*Lunch in the exhibit hall was a big hit!*



*Dr. Steve Kravitz, Executive Director (far left) and Dr. Bob Gunther, President (far right) meet up with Dr. Richard "Sal" Salcido, MD, (third from right), Editor-in-Chief of Advances in Skin and Wound Care and his associate Dr. Chulhyun Ahn, MD, PhD (second from left) of Department of Physical Medicine and Rehabilitation, University of Pennsylvania School of Medicine.*



*Annual Membership Meeting of the APWCA*

Keith Harding, an open panel discussion on Biologics and Hyperbarics, excellent poster abstract sessions, and a post-conference course that was a combined effort between the APWCA and members of the Hyperbaric Oxygen Society.

As usual, food for the APWCA was plentiful and a dinner symposium as well as a wonderful reception enhanced the social agenda. The jazz band for the reception was perfect with a delightful music repertoire leading off with the well-known song "You Got Me Under Your Skin." What could be better for an audience who treats open skin wounds?

Next year look for our Fort Worth, Texas course, which is scheduled for March 6th through 9th. Plan to attend and mark your calendars for the event. Also, please join us June 4th through 8th, 2008 in Toronto, Canada. The APWCA is one of four hosting societies at the Third Congress of the World Union of Wound Healing Societies. We encourage and look forward to seeing as many members as possible at both of these events.

Please read our Executive Director's report for additional updated Association news and activities.



*Open microphone question and answer followed each lecture during the General Session*



*Executive Director, Dr. Steve Kravitz introduces the next speaker.*



*Dr. Kshitij Shankhdhar and Dr. Larry Schuster enjoy conversation and cocktails at the reception.*



*Dr. Jim McGuire always provides for an entertaining and educational lecture.*

## Editor's Note

by Larry Schuster,  
DPM, FAPWCA, Editor-in-Chief

What will technology look like in the future? What existing technologies will merge with others to form new frontiers, and how will those new frontiers impact our practices? How will third parties affect our patient outcomes? These are some of the topics in this issue of SYNERGY, which are being addressed by the APWCA. We hope to deliver information that fosters and facilitates the exchange of information and provide a forum for discussion of issues of importance to members.

We also wish to recognize the accomplishments of our diverse membership and encourage you to submit articles and notices of awards you have received. Dr. Jane Fore, Chair of our Authors Committee, welcomes the submission of articles that she may direct to SYNERGY, Advances in Skin and Wound Care, Podiatry Management, or other appropriate publications. Please feel free to contact me with your concerns and ideas for submissions.

Have a pleasant summer and enjoy our latest issue of SYNERGY! We look forward to hearing from you!



# Executive Director's Report

Steven R. Kravitz, DPM, FAPWCA, Executive Director

*(continued from page 1)*

web site home page, [www.apwca.org](http://www.apwca.org), find abstracts on menu on left hand column.

An APWCA wound care examination construction committee has been formed and is currently ongoing and developing a physician oriented certification in wound care. The Certificate of Added Qualification (CAQ) for physicians will be the first of its kind and a progressive step toward the recognition of wound care as a separate specialty in medicine with residency training, etc. Ultimately as residency programs become established, a traditional board certification process will develop for this field.

Current members and any professional who joins this Association while open enrollment is in place (as it is presently) will be grandfathered and avoid any requirement that may be mandatory in the future to be designated as a Fellow, Diplomate or Associate of the APWCA. New examination that will be available for physicians to fill various pathways that may be established such as the APWCA certification exam to be a Fellow of the APWCA. Remember, the Board has elected to close open enrollment and will do so after alternate pathways such as the examination are developed.

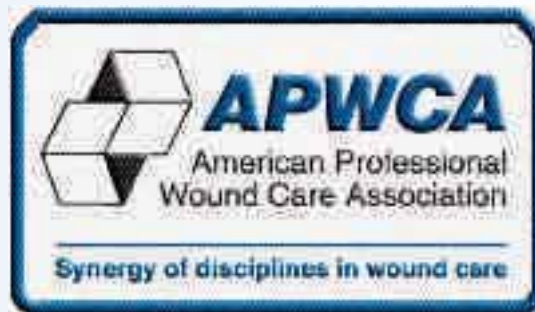
The Association has been increasingly active and continues to be more involved as a resource for analysis and opinion regarding an increasing number of insurance issues. One of the most far reaching has been the Trailblazer Medicare Intermediary regarding reimbursement for skin ulcers. Other groups were also involved in responding to the policy which was ultimately developed by Trailblazer. On service the policy limits 11043 and 44 debridements to five. At the time of this writing, there is further analysis that is being done by the Association. The final position is to be forthcoming in our monthly e-mail News Updates.

We are beginning a membership directory for the web site over the summer. Members will have three options. The first option will be to participate with the general membership directory that will be available to all members as well the public at large as a possible source of patient building; The second option is to participate with the directory available to members only as a means of membership correspondence and referral of patients; the third option will be to "opt-out" and not be in either directory.

We have new very attractive arm patches to place on your lab coat for office and hospital use. They can also be placed on greens for use in office or operating room. They are to be sewn on as we are told this is the best method to secure them to a garment. Wear them proudly to demonstrate your interest in wound care and your membership in this Association. The first patch is on us at no charge or send \$10.60 (includes handling, postage and

tax) payable to APWCA and we will mail you four patches. Remember we have attractive APWCA "Synergy in Wound Care" and "Synergy in Disciplines" lapel pins and new patient information pamphlets (PIP) available as well. The new PIP is attractive, has very good patient information about membership in APWCA and details benefits our members bring to patient care. Framing of your membership certificate is also available. Please contact APWCA headquarters for more information on these and other items.

APWCA recently held regional conferences in our more distant U.S. regions, Honolulu, Hawaii and Anchorage, Alaska. Both of which were successful enough to consider future programs in these areas over the next several years. Our Authors Committee, directed by chair Jane Fore, MD, FAPWCA, continues to be very active through increasing number of member authored articles for both peer reviewed journals as well as medical magazines. The



Committee continues to seek additional authors for all types of articles. Scientific double blinded studies to simple but relevant case reports are all sought. Please contact APWCA headquarters at 1-509-758-1119, or Dr. Fore directly: cell phone at 1-208-305-0000 and the office number is 1-208-743-4443. The E-mail address is [AuthorsCommittee@apwca.org](mailto:AuthorsCommittee@apwca.org). Dr. Fore states "do not hesitate to call me at anytime."

We have initiated a Headquarters Improvement Campaign in which many of you have participated. Any contribution is appreciated. Be a part of the Association's growth and realize small contributions count as well as those from members who may have greater resources. We look forward to increasing growth and extend a sincere gratitude to each and every member who contributes and supports the Association by remitting membership dues, attending our conferences and participating in our activities to the extent that their busy schedules allow.

A great summer to all! Look for updated news in the monthly APWCA email News Updates. Don't forget to contact us with any suggestions or questions that you may have.



## Running A Successful Wound Care Center (continued from page 1)

Judy Lajoie, RN, CWS, CDE, ACHRN, DAPWCA

Associate Director of Nursing, New York Methodist Hospital Brooklyn, NY

because they feel like they are in a hotel or nice spa, but if you do not have skilled clinicians providing care it is a useless entity. You could have a center full of superstar wound care practitioners, but if you don't have adequate supplies and adequate space, then they can't "show their stuff." So, how do you achieve this delicate balance? It's done by taking a good look at every aspect of the center, staffing, supplies and space.

In the world we live in, dealing with insurance companies has become second nature to many of us. We can rattle off what insurance companies require photographs for visit approvals, which companies require letters of medical necessity, how many visits are permitted, and how many debridements can be performed. Without knowledge of the payer mix and how this very intricate aspect works, your center will go nowhere fast! You must have a very experienced, well-versed person at the wheel of that vehicle or your center will crash forthwith! Who has not had to deal with a denial? Possessing the patience to explore each claim and resubmit it takes time and diligence to follow up and

ensure you are paid for services rendered. Keeping track of what is paid and what has not been paid is a full-time job in itself. Employing an office manager that is meticulous with record keeping is paramount for a successful center.

I recently spoke with APWCA member Thomas E. Serena, MD, FACS, FAPWCA, founder and Medical Director of the Penn North Centers for Advanced Wound Care, regarding his secret to a successful wound care center. Dr. Serena said, "Our success is a result of our unique approach: all of our centers are staffed by full-time wound care specialists. We are convinced that this is essential for the long-term success of any program. I like to use the analogy of opening an outpatient cardiology clinic. A clinic staffed by internists who practice cardiology four hours per week may enjoy initial success, but would not be able to compete with a clinic staffed with full-time cardiologists."

In a wound care center it is also very important to know your audience. As Dr. Serena said, he would not open a

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## 10 Hot Lectures – A Quick Review

Cynthia Fleck, MBA, BSN, RN, ET/WOCN, CWS, DAPWCA, FACCWS  
Managing Editor, SYNERGY

Even if you did attend this year’s outstanding APWCA National Conference in Philadelphia, you may have missed some of the programs. Never fear! Fasten your seatbelts for a whirlwind tour of some of the hottest tickets at this year’s show!

### 1. NPUAP Staging and Deep Tissue Injury –

*Mona Baharestani, Ph.D., CWOCN, CWS, FAPWCA*

This pre-conference update discussed the National Pressure Ulcer Advisory Panel’s (NPUAPs) recently revised definitions of stage I through stage IV pressure ulcers and their clinical presentation including unstageable pressure ulcers and their differential diagnoses. The history of suspected deep tissue injuries, their clinical presentation, identification, evaluation and current research was also included. For more information, visit NPUAPs website at [www.npuap.org](http://www.npuap.org).

### 2. Ultrasonic Debridement –

*Vickie R. Driver, DPM, MS, FACFAS, FAPWCA*

This “cutting-edge” program (pardon the pun!) offered new information on the downfalls of sharp debridement while discussing ultrasonic debridement as an alternative. Basic elements of ultrasonic debridement were addressed including questions such as:

- “How do ultrasonic wound treatment devices work?”
- “What is cavitation and how does it occur?”
- “What are the positive effects of cavitation?”
- “How is debridement and treatment balanced?”

### 3. C.A.R.E.:

#### **Clinical, Advances, Research and Education –**

*R. Gary Sibbald, MD, FRCPC, AIM, DABD, M.Ed. FAPWCA and Keith Harding, MB, ChB*

This fun and upbeat program allowed participants to weigh in on issues such as the differential diagnosis of osteomyelitis, pyoderma, vasculitis, arterial disease, pseudomonas psoriasis, onychomycosis, contact allergies and irritants, fungus, psoriasis and malignancy. Assessment skills were honed as Drs. Sibbald and Harding gently poked fun at each other, enjoying some laughs with the crowd!

### 4. Cell Signaling and Wound Care –

*Thomas Kwyer, MD, FAPWCA*

This high-level presentation discussed cell signaling in terms of the molecules that can influence cellular activity for the enhancement of nutrition, energy and the immune system. Examples of how cell signals are influenced by various metabolites that can influence the cellular expression of certain cell signaling molecules were identified. In addition, the availability and enhancement of certain metabolites can affect cell signaling and clinical outcomes important in wound management.

### 5. The Role of Collagen:

#### **What makes the Difference? –**

*Thomas E. Serena, MD, FACS, FAPWCA*

Dr. Serena had the audience intrigued with his picture of the Mona Lisa and his insight and parallel to today’s practice. It was very clever! In this session, the differentiation between acute and chronic wounds was made at a cellular level. Defects associated with chronic wounds such as clinical, cellular, and microbiological and biochemical were described and the importance of collagen in the chronic wound was made with regard to the role of MMPs, TIMPs and Elastase. The ideal collagen dressing biomaterial was described as being “native.” It was a very interesting presentation indeed!



*Dr. Sibbald catching up on e-mails between lectures*

## 6. Infection vs. Bioburden: Making the Right Diagnosis and Treatment Options –

*R. Gary Sibbald, MD, FRCPC, ABIM, DABD, M.Ed.*

This interactive quiz show-like presentation kept the audience captivated while covering the assessment of the features and components of superficial and deep wound infections. The selection of appropriate topical and systemic options for bacterial burden/infections and integrating principles of wound bed preparation in day-to-day practice was covered. Issues such as local wound bed preparation, debridement, bacterial balance, moisture balance and silver products were brought to the forefront. The audience weighed in on wireless key pads during this not-to-be-missed lecture.

## 7. Pay for Performance on the Horizon: What Can Providers Do to Prepare? –

*Laura Bolton, Ph.D., FAPWCA*

Dr. Bolton defined Pay-for-Performance (P4P), how and why it was initiated and where it is used. Dr. Bolton related examples of initiatives, quality measures and improved health outcomes. The quality measures currently in use relating to wound care practice and their impact was reviewed within each major setting. Additionally, recommended strategies and tactics for implementing P4P in facilities, avoiding pitfalls, taking advantage of opportunities, and preparing for a smooth transition were all covered.

## 8. Preparation of the Wound Bed and Debridement –

*Elizabeth Ayello, Ph.D., RN, ARN, BC, CWOCN, FAAN, FAPWCA*

Wound bed preparation was defined, including its components with an emphasis on the DIME principles: Debridement, Infection, Moisture balance, and Edge effect. The methods of

debridement, including surgical/sharp, autolytic, mechanical, maggot and enzymatic were reviewed and compared for their evidence in this lively pre-conference program lead by one of wound care nursing's finest!

## 9. Accurate Wound Measurement and Assessment in the 21st Century with Diagnostic Ultrasound and Photo Planimetry Software –

*Oscar Alvarez, Ph.D., FAPWCA*

A highlight of this year's annual conference occurred when this woundcare guru came down from the podium to address the audience in a way that only he could! Mesmerizing and funny, Dr. Alvarez hooked the crowd with his poignant review of different methods used to measure wounds and reviewed data that compares each method using inter-rater and intra-rater reliability. He reviewed the literature for understanding the confidence of complete healing at 12 weeks in contrast to wound measurements obtained at 4 weeks. Attendees learned how to use digital photo planimetry to measure wounds accurately and reproducibly.

## 10. Necrosis and Quiescence Implications for Product Development –

*Darlene McCord, Ph.D., FAPWCA*

Right after opening ceremonies, Dr. McCord presented an intriguing topic regarding how cell death is misunderstood and what can be achieved when knowledge of when and how intervention can take place using advanced products that reverse certain cell patterns. Improving the cell's environment during pre-lethal events is vital and may potentially be aided by new technologies, bringing the bench to the bedside. Ongoing testing such as advanced assay allow researchers to image the effect of novel chemicals on inflammation, wound healing markers and reversal of necrosis.

## Save the Date!



**What:** Third Congress of the World Union of Wound Healing Societies  
**When:** June 4th through 8th, 2008  
**Where:** Metro Toronto Convention Centre, Toronto, Ontario Canada

**More information:** [www.wuwhs2008.ca](http://www.wuwhs2008.ca)

## Members In The News



### **Dr. Elizabeth Ayello (right) with Dr. Courtney Lyder**

APWCA Board Member Elizabeth A. Ayello, Ph.D., RN, APRN, BC, CWOCN, FAPWCA, FAAN, received the 2007 National Pressure Ulcer Advisory Panel's (NPUAPs) 2007 Kosiak award, which is the NPUAPs oldest accolade. Named in honor of Dr. Michael Kosiak, the award is designed to recognize individuals who have made significant contribution to the prevention and/or management of pressure ulcers through their leadership in research, education, and/or patient care.



### **World Union Planning meeting in Philadelphia**

This year's World Union Planning meeting took place prior to the APWCAs conference in Philadelphia this past April with several members and friends in attendance. It is hard to believe the meeting is next year in Toronto! Be sure to save the date for the Third Congress of the World Union of Wound Healing Societies, held June 4 to 8, 2008.



### **Dr. Elizabeth Ayello and Dr. R. Gary Sibbald in Iran**

Drs. Elizabeth Ayello and Gary Sibbald had the opportunity to meet with nurses, doctors and patients while faculty members for the International, Interdisciplinary Wound Care Course held at the University of Tehran, Iran in conjunction with the University of Toronto.



### **Sharon Baranoski, MSN, RN, CWOCN, DAPWCA, FAAN**

Wound care thought leader and pioneer, Sharon Baranoski was appointed to the Board of Directors of the American Professional Wound Care Association at the Board meeting in Philadelphia this past April. Congratulations and welcome, Sharon!

## Running A Successful Wound Care Center

(continued from page 5)

wound care center with part-time wound care physicians. Just the same, we could not expect a wound care center to be staffed with only podiatrists, or only general surgeons. For it to be a “center of excellence,” you need practitioners who are experts in their respective fields such as plastic surgeons, vascular surgeons, podiatrists, general surgeons and dermatologists. I wouldn’t go to an eye doctor to fix a problem with my bladder! Why then, would I want a plastic surgeon caring for my diabetic foot ulcer when I could have a Board Certified Foot/Ankle Surgeon? It all goes back to the idea of balance: supplying the right practitioners to take care of patients with the right supplies in the right setting. Providing a setting where you can make it “one stop shopping” for patients also makes it ideal not only for your wound care center but for the spin-off it creates in other areas, such as sending patients for vascular studies, blood tests, or radiological studies such as an MRI or a CT scan. Offering all of these entities under one roof makes it easier for the patient to access the tests ordered and may speed up the diagnostic process.

Pay for Performance (P4P) is also beginning to enter the healthcare forum in the United States. Initially started in the United Kingdom, the concept of pay for performance is the idea of rewarding providers for meeting preestablished targets for delivery of healthcare services. This concept is beginning to take shape in the woundcare forum. Value-based purchasing, or P4P, is a

payment model that rewards physicians, hospitals, medical groups and other healthcare providers for meeting certain performance measures for quality and efficiency. Pilot studies currently underway in several large healthcare systems have shown modest improvements in specific outcomes and increased efficiency, but no cost savings due to administrative requirements.

Pay for Performance systems link compensation to measures of work quality or goals. Current methods of healthcare payment may actually reward less-safe care, since some insurance companies will not pay for new practices to reduce errors, while physicians and hospitals can bill for additional services that are needed when patients are injured by mistakes.

So, in our ever-changing world we recognize that we need to keep changing with it. Whether it be the concept of P4P, or knowing the intricacies of the insurance business, wound care practitioners always need to stay ahead of the curve to continue to provide quality care and not go bankrupt doing so!

1. Wikipedia Pay For Performance (healthcare)  
[http://en.wikipedia.org/wiki/Pay\\_for\\_performance\\_healthcare](http://en.wikipedia.org/wiki/Pay_for_performance_healthcare)
2. The Commonwealth Fund: Five Years After "To Err Is Human": What Have We Learned?



Andrea Brennan, CLT-LANA, DAPWCA, of the Cancer Center of Scottsdale Hospital in Scottsdale, Ariz. was this year’s poster winner at the APWCA’s national conference in Philadelphia. Poster chairwoman, Judy LaJoie, RN, CWS, CHRN, CDE, DAPWCA, stated that Andrea’s poster, “Phlebolymphe'dema: Management of Dermal Changes and Wounds” was chosen because it brought new ideas to an old problem. Ms. Brennan's methodology yielded remarkable results and vastly improved patient's quality of life. The poster was written in a format that was understandable to all clinicians in the wound care field and created food for thought.” A thumbnail of Andrea’s poster is shown here. Congratulations, Andrea!



## Book Review

Cynthia Fleck, MBA, BSN, RN, ET/WOCN, CWS, DAPWCA, FACCWS  
Managing Editor, SYNERGY

### Chronic Wound Care: A Clinical Source Book for Healthcare Professionals 4th Edition

Bravo! Just when we thought the third edition couldn't get any better, the tireless co-editors, Drs. Diane L. Krasner, George T. Rodeheaver, and R. Gary Sibbald and their team of experts



debut their best wound care text yet in their Fourth Edition. These wound care thought leaders bring years of clinical practice and expertise in the disciplines of nursing, research, and medicine, along with their editorial savvy to assure their ability to coordinate the coherent coverage of the essentials required to fully care for patients with chronic wounds.

The long-awaited 4th Edition of the classic wound management text recently had its unveiling this past April. It is written collectively by gurus from every subspecialty of wound management. This must-read for anyone involved in the treatment, care and concern of wounds contains new material and more than 135 contributors.

With an emphasis on interprofessional wound care, the 4th edition of Chronic Wound Care features more than 70 chapters, 20 of which are completely original, with entirely new information on skin and wound pain, wound care in home care, negative pressure wound therapy, geriatric wound care, chronic wounds in neonates and children, wound and skin care for the bariatric patient, and support surfaces. Each chapter, boasting updated content and references, opens with consistent objectives and closes with "Take Home Messages for Practice" and a short self-assessment quiz.

Published by HMP Communications, Malvern, Pa., this new can't-be-missed text is available now for \$119.00 by logging on to the book's Web site at: <http://www.chronicwoundcarebook.com/>. Pick it up today to add to your wound care library

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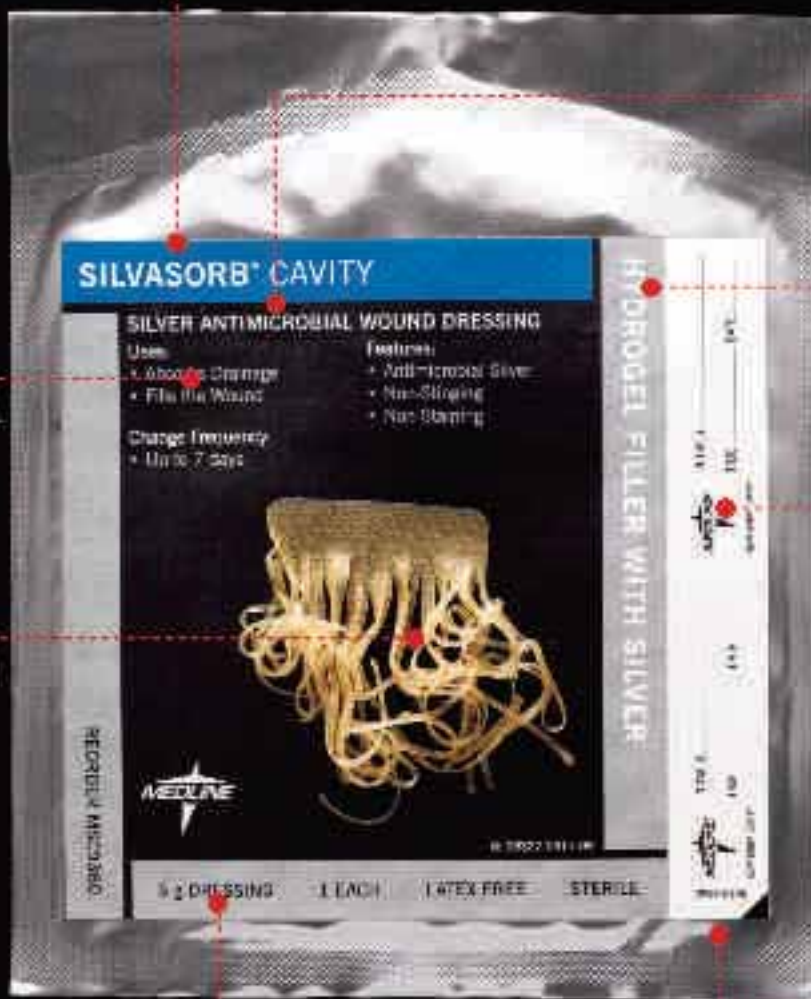
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# What makes this package inside every Silvasorb package so different?

It's Medline's way of ensuring that today's busy nurses have all the product info they need.

**Name of Product**



**Subtitle**

A general definition of the product.

**Category**

Giving a more detailed breakdown of the product.

**Sticker**

A breakthrough! This sticker dates the dressing, and alerts you to when it's time to change.

**Key Information**

Clarifies appropriate use.

**Product Photo**

A clear-as-day picture of the bandage.

**Basic Info**

Brief technical detailing of product attributes: Size, number, etc.

**Booklet!**

A show-and-tell pamphlet that is a short and sweet, 2-minute course on wound care.



# PLANIMETRIC MEASUREMENTS 101

## GET TO KNOW THIS WOUND-CARE TOOL

By Martin E. Wendelken DPM, RN  
 Oscar M. Alvarez, Ph.D.  
 Lee Markowitz, DPM  
 Christopher Comfort, MD  
 Lucy Hernandez, NP

### PLANI-WHAT?

Planimetry is defined as the measurement of plane surfaces – in this case, lesions and wounds on the skin. In medicine, there are a number of necessary reasons to measure lesions on the skin's surface. Measurements are used to follow or track changes in the size of lesions or wounds as practitioners apply a number of medications or therapies to treat a pathologic condition. Tracking chronic or acute wounds is particularly important because it is known that changes in wound surface area over time can be used as a predictor of wound closure.<sup>1, 2, 3</sup>

There are a number of methods of determining wound dimensions. Currently, the most popular method is simple linear measurements (length = L and width = W). Linear measurements should be made so that the widest width is made and the longest length is measured perpendicular to the width line. Area is then calculated by multiplying length by width. Although simple to perform, it is the least accurate method in that L x W is based on a rectangle while wounds are a variety of shapes. Errors can exceed 50 percent and higher using this method (Fig.1).

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Fig. 1: Left- Wounds are typically measured in centimeters, using a ruler. The wound length and width (perpendicular to the length) are made. Area is calculated by multiplying the length by the width. Right- Manual tracings are more accurate than linear measurements but are much harder and time consuming to perform. In addition, tracings can be painful to the patient and have contamination risks.

Another method of wound measurement is the tracing of a wound parameter on a transparent acetate sheet. This is better than linear measurements, but not without its problems. Steam forms below the film surface, glare blocks visibility of the wound and there is an increased risk of wound contamination performing tracings (Fig.1). Tracing can also be painful to the patient, and this method takes time to count the squares (in centimeters) after placing the acetate sheet over a grid to determine wound area. It is very well documented that the inter-rater reliability of wound tracings (two people tracing the same wound) yields large differences in wound areas. A recent advancement in wound tracings provides for a digital tablet that counts the number of squares (in centimeters); however, a second tracing over the original tracing on the device is necessary. This increases the chance and risk of errors.



Fig. 2- Pictures of wounds can be stored and shown as a series of images, showing changes in the size of the wound over time.

## DIGITAL PHOTO PLANIMETRY

A well-obtained photograph provides excellent documentation of a wound or lesion's current status. Photographs also have the ability to provide a wound history and act as a wound monitor when serial images are taken of the same lesion (Fig. 2). The addition of accurate measurements on photographs adds a new dimension to this archiving process. Images with measurements can be used as a "yardstick" to track the effectiveness of specific treatment regimens. Wound measurements are used as an objective basis for reimbursement for a variety of dressings, skin replacements, negative pressure therapy and surgical debridement.

Digital photography's popularity has grown by leaps and bounds in the past several years and for many is now the preferred method of acquiring images (versus images on photographic film). Digital cameras are easy to use, and many have wonderful image quality and image size up to 10 megapixels or more. (Pixel, by the way, is short for "picture element," the basic unit from which a video or computer picture is made. The more pixels, the higher the resolution of the picture.)

Photo digital planimetry software (PDPS) is now available and can be used to perform accurate measurements on digital photographs. PDPS mapping of wounds or lesions is performed on a computer using a mouse or touch screen monitor, a notebook tablet with pen or USB tablet with pen. Images of the lesions are captured with a digital camera without regard to distance (as close as possible provides better images and measurements). Parameters include length, width, area, circumference and depth (added) to calculate volume (Fig. 3).



Fig. 3- Photo digital planimetry software shines when it comes to oddly shaped wounds. Above, an image of oddly shaped wound (right) and the measured wound using PDPS (left).

Images of the lesions are captured with a digital camera without regard to distance (as close as possible provides better images and measurements). Parameters include length, width, area, circumference and depth (added) to calculate volume (Fig. 3).

The image obtained has a ruler in the picture, which is then used for easy calibration with

the software. Once calibrated, the measurement data is generated by the computer, captured and added to the image for easy reading. The data generated can also be saved to a spreadsheet program to calculate percent change in area of the wound in addition to providing a wound history and/or statistical analysis of changes in the wound parameters. PDPS has been found to be the best way to measure both regular and oddly shaped wounds (Fig. 4).



Fig. 4- Above is a sample of a foot wound over the dorsal aspect of the toes. In comparison to traditional measurements, PDPS provides a clear visual indicator that allows a clinician to calculate the wound's exact surface regardless of shape.

Reports can be generated for the resident's chart (electronic or paper) and can also be sent to referral sources. These same reports might be needed for insurance companies and Medicare for reimbursement purposes. Best of all, unlike tracings, the data can be verified by others because the original picture is always available for review. PDPS has been shown to have intra-rater reliability of 98.3 percent, or less than a 1.7 percent error rate.

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#### An attorney's view on photographic wound documentation

Attorneys often disagree when advising long-term care facilities regarding the use of photos for wound documentation. However, there are times when photographic wound documentation can be very useful to a facility. Photos can be helpful in documenting the exact measurements of wounds present on admission. A long-term care facility can precisely identify the number, extent and location of the wounds that a resident presents with at admission. The progress of those wounds can also be well documented with photos. The facility's wound documentation policies and procedures must be very specific regarding the appropriate times for photographic documentation. A facility can place itself at increased legal risk without appropriate policies and procedures related to photographic evidence. Consult your legal counsel prior to implementing a photographic policy for wounds.

-Janet K. Feldkamp RN, BSN, LNHA, JD

# THE APWCA MISSION

*T*HE MISSION OF THE AMERICAN PROFESSIONAL WOUND CARE ASSOCIATION (APWCA) IS TO ENHANCE THE EDUCATION INVOLVED IN THE CARE OF ALL WOUNDS INCLUDING ACUTE, CHRONIC, POST-SURGICAL, POST-RADIATION, RECONSTRUCTIVE AND OTHER PROBLEMATIC WOUNDS. OUR PURPOSE IS TO DECREASE THE INCIDENCE OF SEQUELAE, INCLUDING MAJOR AMPUTATIONS AND DYSFUNCTION, WHILE IMPROVING THE QUALITY OF LIFE FOR THOSE PATIENTS SUFFERING FROM THESE COMPLEX LESIONS. THIS MISSION IS ACCOMPLISHED THROUGH AN INTERDISCIPLINARY APPROACH TO CLINICAL CARE, PROFESSIONAL EDUCATION AND PATIENT ADVOCACY.

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