

# Wound Product Categories

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# Objectives

- The attendee will be able to list 3 different categories of wound products

# Some Basics

- Application of moist wound healing by adding moisture to dry wounds
- Absorbent dressings to absorb wound exudate
- Debridement
- A dry cell is a dead cell

# Moist wound healing

- Moist wound healing was started by Dr. George Winter in about 1962 when he found that a moist wound healed twice as fast as a dry wound.
- With the concept of moist wound healing the purpose of products has expanded from hemostasis, prevention of infection and wound protection.

# Wet-To-Dry and Wet To Moist Dressings

- Wet to dry became the gold standard of wound care and is still often used and sometimes appropriate.
- The more advanced dressings cost more
- OR do they?

# Wet to Dry - Wet to Moist

- Consider the cost of the dressing
- Cost of nursing labor
- Indirect costs, gloves, biohazard waste
- Cost of duration, how long it takes to heal
- Wet to dry needs to be done at least twice a day
- More advanced product can be left on longer, some up to 5 to 7 days

# More on “wet to dry” dressings

- When a wound is open to air, it can take up to 4 hours for it to warm back up for healing
- One study showed that bacteria were capable of penetrating 64 layers of gauze
- Another study showed that a semioclusive dressing total cost was \$15.90 while wet to dry total cost was \$25.31

# Moist wound healing

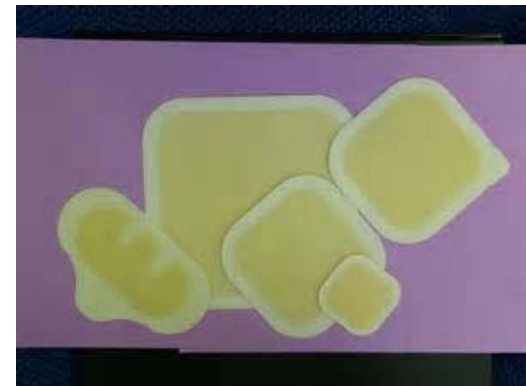
- Facilitation of debridement
- Reducing pain
- Diminished scarring
- This all has led to





# Hydrocolloids

- Original patent in 1953
- First used in ostomy flanges (1980)
- First used as wound dressing in 1989
- Occlusive
- Impermeable to bacteria and fluids
- Facilitates autolytic debridement
- Minimal to moderate absorption
- Thermal insulation



# Hydrocolloid Indications

- They once were the “gold standard” BUT
- With the advent of silicone dressings
- Hydrocolloids are not used as often
- Can be a primary or secondary dressing
- Partial or full thickness wounds
- Wounds with slough or necrosis
- Some select pressure ulcers

# Silicones

- Silicones are becoming widely established in wound care.
- They make ideal adhesives because they are highly compatible with the skin and can be rendered soft and flexible.
- Combine that with properties which promote wound healing, water-vapor and gas permeability and the outcome is gentle adhesive properties that are kind and beneficial to the skin.
- Silicones also help scars to heal, making them look more attractive and less conspicuous.

# Transparents

- Original patent in 1963
- First wound dressing developed in 1988
- Waterproof
- Permeable to oxygen and moisture
- Impermeable to bacteria
- Facilitate autolytic debridement
- Allow wound observation



# Transparent dressings

- Primary or secondary dressing
- Prevent and manage Stage I pressure ulcers
- Partial-thickness wounds with minimal exudate
- Wounds with necrotic tissue or slough
- Do not use on infected wounds
- NEVER use on fragile skin



# Alginates

- Derived from brown seaweed
- Soft, nonwoven fibers
- An alginate can absorb up to **20** times its weight
- Good for highly exudating wounds
- Forms a soft gel within the wound bed
- Maintains a moist healing environment

# Alginates

- Comes in ropes or sheets
- Fill in dead space in a open wound
- Easy to apply and remove
- Require a secondary dressing to hold them in place
- Facilitate autolytic debridement





# Antimicrobials and Antifungals

- Topical wound care products derived from agents such as
  - Silver
  - Iodine
  - AMD – antimicrobial dressing
  - Honey
  - Hydrofera blue
  - Miconazole Nitrate (antifungal powders, creams and ointments)

# Antimicrobial dressings

- Many of these advanced dressings can stay on the wound from 3 to 7 days
- Decrease the bacterial load in the wound
- Indicated for draining, infected wounds
- They come in MANY forms - foams, sheets, gels, powders, alginates, post op dressings (telfa type with tape border), rope, packing strips, contact layers and more.

# Collagens

- Most abundant protein in the body
- Collagen encourages the deposition and organization of newly formed collagen fibers and granulation tissue
- Used in partial and full thickness wounds
- Infected or noninfected wounds, donor sites
- Requires a secondary dressing



# Composite dressings

- Two or more physically distinct products
- Multilayered, waterproof, all in one dressings
- Usually sterile and in a package



# Contact layers

- Single layers of a woven net that protects the base of the wound
- Requires a secondary dressing



# Foams, foams, and more Foams

- Thermal insulation...the warmest dressing
- Come in pads, sheets, with and without adhesive borders
- Nonlinting and absorbent
- Thin or thick
- They have a nonadherent layer
- Allow for nontraumatic removal



# Foams

- Easy to apply and remove
- May be used under compression
- Absorb light to heavy exudate
- May be used as primary or secondary dressing
- May use around tubes
- Some foams are impregnated with silver



# Negative Pressure Wound Therapy

- In 1996, KCI (Kinetic Concepts) introduced this innovative approach to the treatment of serious, complex wounds through the use of sub-atmospheric or negative pressure.





# Wound negative pressure

- NPWT promotes wound healing by applying a vacuum through a special sealed dressing. The continued vacuum draws fluid and waste from the wound.
- It includes a vacuum pump, drainage tubing and a dressing kit. It has been indicated that wounds heal 60% faster with NPWT.

# Negative Pressure

- In these 18 years, other companies (13 vendors) have developed negative pressure therapies
- Some of them use gauze instead of foam often with good results.



# Hydrogels

- Water or glycerin based gels
- Impregnated gauzes or sheets
- Not used for highly exudating wounds
- Do maintain a moist healing environment
- Promote granulation and epithelialization
- Facilitate autolytic debridement
- Soothing and reduce pain

# Hydrogels



# Chronic wounds

- In 2009, more than 5.7 million in our US had chronic wounds.
- Global economic burden of wound care is approximately \$20 billion annually.
- NOT taking into account the impact on quality of life.

# Reimbursement

- In hospitals, since 2008, CMS will not pay for pressure ulcers developed after hospital admission.
- In Home Care must assess for pressure risk and implement preventive measures; must use moist wound healing for pressure ulcers
- Wound care deterioration is monitored by CMS (Centers for Medicare and Medicaid)

# Questions



# Thank you!





# Resources

- <http://www.npuap.org>
- Cathy Hess, RN,BSN,CWOCN,Clinical Guide to Wound Care,7<sup>th</sup> Edition,Lippincott Williams & Wilkins Publishers. 2013.
- Deborah Whittemore, MSN,ANP,CWCN. Wound Management: Past, Present & Future. [www.husson.edu](http://www.husson.edu)
- [www.kci1.com](http://www.kci1.com)

## Resource

- Ovington, Liza G, “Hanging Wet-To-Dry Out To Dry” *Advances in Skin & Wound Care: The Journal for Prevention and Healing*, March/April 2002, Volume 15 Number 2, Pages 79-84