Expedience of debridement and cost comparison of pressure ulcer debridement utilizing a 100% preservative free / coloration free Manuka honey versus a selective chemical debrider

Presented by: Diane Heasley, RN, CWCN, WCC, DAPWCA, CNS and Erin Bryner, LPN

Problem statement

Pressure ulcers can suffer from many issues, but bacterial load can be the biggest impediment of all caused by necrosis. Wounds cannot heal from the base up until the base is free from necrotic material. Autolysis can take forever to be efficacious and chemical debridement can be cost prohibitive. In addition, sharp debridement, the quickest method, may not even be an option secondary to medical status, an issue of getting a "quick" appointment or even a lack of qualified practitioners to perform the task.

This study analyzes the efficacy, expedience and actual cost of care associated with materials, personnel and time for wound care utilizing a selective chemical debriding agent versus a 100% preservative and coloration free Manuka honey based agent.

Study Overview and Execution

Six clients were chosen between the ages of 61 and 79 years of age. All had sacral or coccyx pressure ulcers and all had 100% slough covered bases. All six had dynamic support surfaces for tissue load management, and all had nutrition, hydration, pain and odor addressed. All but one was incontinent of urine, so these five had a Foley catheter placed to divert urine. All six wounds were under 5cm in width and length and all had utilized wet to moist normal saline for dressing care prior to treatment initiation.

The chemical groups starting measurements:
Client 1: 3.6cm x 4.2cm x 0cm
Client 2: 2.5cm x 3.4cm x 0cm
Client 3: 2.9cm x 3.1cm x 0cm

The Manuka honey groups starting measurements:
Client 4: 3.8cm x 3.9cm x 0cm
Client 5: 4.7cm x 4.2cm x 0cm
Client 6: 4.1cm x 3.9cm x 0cm

Three clients were assigned to the chemical debriding group and three to the Manuka honey group. All clients were cleansed with normal saline solution and pat dried follow by nickel thick placement of each respective agent and covered with a waterproof composite dressing. The chemical debriding agent was changed daily following manufacturers' directions and the Manuka group was changed every three days.

Observations for the study were made every three days for a period of twelve days. Measurement of the amount of necrotic material in 10% increments was notated and the cost of care was calculated by using the LPN wage for Western PA of $18.75/hr with the average change taking 10 minutes of nursing time giving us a $3.13 amount for each change. The cost of the chemical was $176/tube. The Manuka agent was placed at a cost of $14.03 per tube. The composite cost was $2.34 for each dressing.

Findings

Client	*Method*	*Day 1*	*Day 3*	*Day 6*	*Day 9*	*Day 12*
1	Chemical debriding	100% slough	100%	90%	80%	70%
2		100%	90%	90%	90%	80%
3		100%	90%	80%	70%	60%
4	Manuka honey debriding	100%	90%	70%	30%	10%
5		100%	80%	50%	10%	0%
6		100%	80%	60%	40%	0%

The rate of debridement varied considerably from the chemical debrider and the 100% Manuka honey. On 2 of the patients the 100% Manuka honey dressing achieved total debridement within the time period of the assessment. The chemical debrider only achieved a maximum of 40% debridement within the same time period.

Chemical debriding cost of care:
Chemical debrider : # tubes used = 6 for total of $1056.00
Composite pads: # used = 36 for total of $84.24
Nursing time: 10 minutes per change at $3.13 for each = $112.68 (36 changes)
Total cost: $1252.92

Manuka honey debriding cost of care:
Honey: # tubes used = 6 for total of $84.18
Composite pads: # used = 15 for total of $35.10
Nursing time: 10 minutes per change at $3.13 for each = $46.95 (15 changes)
Total cost: $166.23

Debridement using 100% Pure medical Grade Manuka honey

Conclusion

The use of 100% Medical Grade Manuka Honey debrided the wounds more expediently than using a chemical debriding agent. The Use of The Manuka honey also saw substantially reduced costs for the treatment over the same timescale with a saving of $1086.69 for the 3 patients.

*Special thanks to Lafayette Manor, Uniontown, PA for their participation in the study, Square One Medical for the Manuka Honey (Activon, Advancis Medical) and Diamond pharmacy for the chemical debrider (Santyl, Healthpoint).