

Economic Value with V.A.C.[®] Therapy

Effect of Early vs. Late initiation of
negative pressure wound therapy on total
treatment and wound-related costs

ANALYSIS OF INSURANCE CLAIMS DATA

Considering Total Cost of Care

- Negative pressure wound therapy (NPWT*) has become a common treatment choice for many wounds over the past 16 years¹
- Benefits of Early vs. Late initiation of NPWT on acute and chronic wounds have also been demonstrated in acute care, long-term acute care and home health care¹⁻⁴
- Clinicians have many options available for the treatment of wounds; the challenge comes in balancing cost of treatment with the overall cost of care

Analysis Objective and Methodology

- The objective of this study was to assess total treatment costs for patients receiving KCI V.A.C.® Therapy when initiated Early vs Late in the treatment of acute and chronic wounds
- A retrospective analysis was conducted on a national insurance provider's medical claims data examining 6,181 acute and 1,480 chronic wound patients that received NPWT* from January 1, 2009 to June 30, 2011
- Patient costs were tracked for 6 months prior to NPWT and 12 months post NPWT
- Total costs include all claims submitted for the patient after the initial post acute NPWT claim; no costs were excluded from the analysis
- Costs were classified as "wound related" if a wound diagnosis appeared within the top three diagnoses on the claim
- Early NPWT was defined for acute wounds as treatment initiated within the first 7 days from the first wound treatment date and within 30 days for chronic wounds; late NPWT initiation occurred after this time
- A secondary analysis was conducted on a sub-set of patients where Charlson Co-morbidity Index Scores ≤ 5 , to assess Early vs. Late cost differences by wound type, excluding the sickest patients with significant non-wound long-term care costs; this cohort represented 80% of the wounds

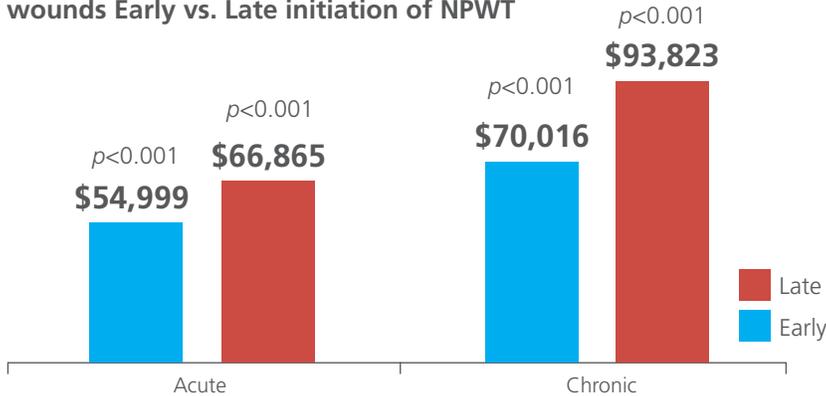
Selected Study Findings:

- Chronic wound patients tend to be older, sicker and costlier to treat than acute wound patients, with a higher cost improvement benefit from initiating NPWT Early vs. Late than acute patients
- Patients with acute wounds treated early had 17.7% lower total estimated costs (\$54,999 vs \$66,865, $p < 0.001$)
- Patients with chronic wounds treated early had 25% lower total estimated costs (\$70,016 vs. \$93,289, $p < 0.001$)
- Total Wound Costs were 30% lower for acute wounds treated Early vs. Late (\$13,416 vs. \$19,112, $p < 0.001$), and 40.98% lower for chronic wounds treated Early vs. Late \$23,950 vs \$40,579, $p < 0.001$)

*Each Patient received at least 1 charge for NPWT

THE ECONOMICS OF HEALING MATTERS

Expected 12-month total costs to treat acute and chronic wounds Early vs. Late initiation of NPWT



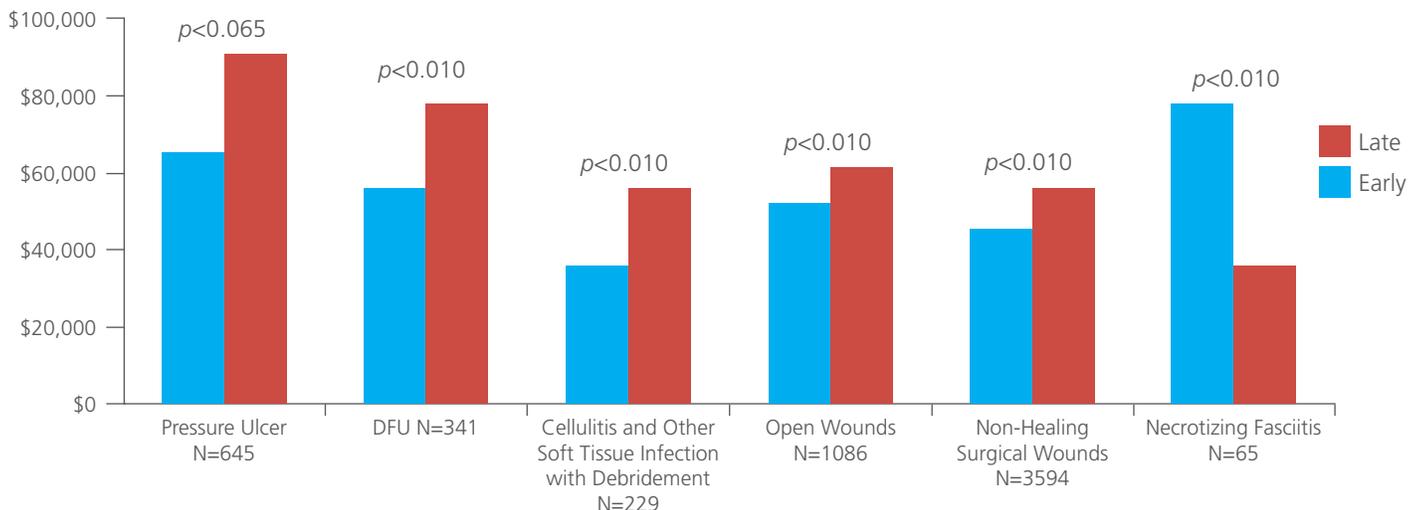
Early vs. Late NPWT initiation reduced total estimated costs by 17.7% in acute wounds and by 25% in chronic wounds

Expected 12-month total wound costs for acute and chronic wounds Early vs. Late initiation of NPWT



Total wound costs were 30% lower for acute wounds treated Early vs. Late and 41% lower for chronic wounds

Differences in 12-month costs for KCI NPWT patients indicated reduced total costs of care for patients receiving NPWT Early vs. Late in all wound types except Necrotizing Fasciitis.



A sub-set analysis of 4974 acute wounds and 986 chronic wounds with Charlson Comorbidity Scores ≤ 5 allowed a further comparison of Early vs. Late by wound types, with the very sick (Charlson Co-morbidity Scores > 5) removed

STUDY DEMOGRAPHICS

Acute Wound Type	N	Avg. Age at time of NPWT	Avg. Charlson Index Score
Non-healing Surgical Wounds	4,424	57.9	3.0
Open Wounds	1,329	59.7	3.0
Cellulitis and Other Soft Tissue Inf w/ Debridement	266	52.8	2.8
Necrotizing Fasciitis	78	52.4	2.8
Orthopedic Trauma	41	45.2	1.4
Flaps and Grafts	39	49.4	2.2
Diabetes with Amputation	4	60.8	3.8
Acute Early	3,391	56.9	2.7
Acute Late	2,790	59	3.2
Acute Total	6,181	57.9	3.0

Chronic Wound Type	N	Avg. Age at time of NPWT	Avg. Charlson Index Score
Pressure Ulcer	842	63.2	3.8
Diabetes and Ulcer	475	61.4	4.5
Venous Leg Ulcers	88	66.8	4.7
Unknown	75	56.8	2.0
Chronic Early	470	60.9	3.5
Chronic Late	1,010	63.2	4.2
Chronic Total	1,480	62.5	4.0
Total Population	7,661	58.8	3.2



Conclusion

In this large retrospective analysis of acute and chronic wounds, early NPWT initiation resulted in lower estimated total and wound-related costs than late use of NPWT, supporting previous published benefits of early initiation of NPWT.¹⁻⁴

KCI V.A.C.® Therapy is Designed to Help Accurately Deliver the Prescribed Negative Pressure for Optimal Healing

- Individual sensing lumens **measure, monitor, manage, and maintain negative pressure** at the wound site
- Software-controlled technology helps maintains negative pressure and helps **reduce tubing blockages** and false alarms
- Nationwide product-related clinical and technical support for patients, clinicians and caregivers available 24/7/365

KCI understands the importance of demonstrating our therapies' value in improving outcomes, patient satisfaction, and lowering the total cost of care. For additional information, please call **800.826.0270**

Source: Analysis conducted on insurance claims data by Axia Ltd. Data on file with KCI

References:

1. Gupta S, et al. The impact of evolving V.A.C. Therapy technology on outcomes in wound care. *Int Wound J* 2012 Aug;9 (Suppl.1):iii-vii.
2. Baharestani MM, et al. Optimizing clinical and cost effectiveness with early intervention of V.A.C. Therapy. *Ostomy Wound Manage* 2008 November 1;54(11 Suppl):1-15.
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4. Driver R and de Leon J. Health Economic Implications for Wound Care and Limb Preservation. *Journal of Managed Care Medicine* 2008 January; 11:13-19.



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