

CONCLUSIONS

VAC is relatively a new technique to our part of the world. It is very effective in promoting healing. It helps by reducing size of the wound and more importantly promoting granulation tissue formation. This technique is very simple to learn and practice. It is an extremely simple modality and does not require expensive equipment.

Although traditional soft tissue reconstruction is generally required to obtain adequate coverage, the use of this dressing may sometimes be enough alone.

REFERENCES

1. Flicker L. Tissue healing in older people - focus on sensory nerves. National Ageing Research Institute. Last updated October 1996.
2. Wysocki AB. Wound fluids and the pathogenesis of chronic wounds. *J Wound Ostomy Continence Nurs* 1996; 23: 283–290.
3. Mutschler W, Muth CM. Hyperbaric oxygen therapy in trauma surgery. *Unfallchirurg* 2001; 104: 102–114.
4. Mouës CM, Heule F, Hovius SER. A review of topical negative pressure therapy in wound healing: sufficient evidence?. *Am J Surg* 2011; 201(4):544-5.
5. Mathieu D, Linke J-C, Wattel F. Non-healing wounds. In: *Handbook on hyperbaric medicine*, Mathieu DE, (eds). Netherlands: Springer ; 2006.
6. Menke NB, Ward KR, Witten TM, Bonchev DG, Diegelmann RF. Impaired wound healing. *Clin Dermatol* 2007;25:19-25.
7. Gosain A, DiPietro LA. Aging and wound healing. *World J Surg* 2004;28:321-6.
8. Bishop A. Role of oxygen in wound healing. *J Wound Care* 2008;17:399-402.
9. Rodriguez PG, Felix FN, Woodley DT, Shim EK. The role of oxygen in wound healing: a review of the literature. *Dermatol Surg* 2008;34:1159-69.
10. Tandara AA, Mustoe TA. Oxygen in wound healing—more than a nutrient. *World J Surg* 2004;28:294-300.
11. Swift ME, Burns AL, Gray KL, DiPietro LA. Age-related alterations in the inflammatory response to dermal injury. *J Invest Dermatol* 2001;117:1027-35.
12. Gilliver SC, Ashworth JJ, Ashcroft GS. The hormonal regulation of cutaneous wound healing. *Clin Dermatol* 2007;25:56-62.
13. Glaser R, Kiecolt-Glaser JK. Stress-induced immune dysfunction: implications for health. *Nat Rev Immunol* 2005;5:243-51.
14. Vileikyte L. Stress and wound healing. *Clin Dermatol* 2007;25:49-55.
15. Godbout JP, Glaser R. Stress-induced immune dysregulation: implications for wound healing, infectious disease and cancer. *J Neuroimmune Pharmacol* 2006;1:421-7.
16. Boyapati L, Wang HL. The role of stress in periodontal disease and wound healing. *Periodontol* 2007; 44:195-210.
17. Brem H, Tomic-Canic M. Cellular and molecular basis of wound healing in diabetes. *J Clin Invest* 2007;117:1219-22.
18. Tandara AA, Mustoe TA. Oxygen in wound healing—more than a nutrient. *World J Surg* 2004;28:294-300.

References

19. Woo K, Ayello EA, Sibbald RG. The edge effect: current therapeutic options to advance the wound edge. *Adv Skin Wound Care* 2007;20:99-117.
20. Vincent AM, Russell JW, Low P, Feldman EL. Oxidative stress in the pathogenesis of diabetic neuropathy. *Endocr Rev* 2004;25:612-28.
21. Galkowska H, Olszewski WL, Wojewodzka U, Rosinski G, Karnafel W. Neurogenic factors in the impaired healing of diabetic foot ulcers. *J Surg Res* 2006;134:252-8.
22. Sibbald RG, Woo KY. The biology of chronic foot ulcers in persons with diabetes. *Diabetes Metab Res Rev* 2008;24(Suppl 1):25-30.
23. Choudhry MA, Chaudry IH. Alcohol intoxication and post-burn complications. *Front Biosci* 2006;11:998-1005.
24. Ahn C, Mulligan P, Salcido RS. Smoking—the bane of wound healing: biomedical interventions and social influences. *Adv Skin Wound Care* 2008;21:227-38.
25. Sorensen LT, Jorgensen S, Petersen LJ, Hemmingsen U, Bulow J, Loft S, et al. Acute effects of nicotine and smoking on blood flow, tissue oxygen, and aerobic metabolism of the skin and subcutis. *J Surg Res* 2009;152:224-30.
26. Arnold M, Barbul A. Nutrition and wound healing. *Plast Reconstr Surg* 2006;117(7 Suppl):42S-58S.
27. Yaremchuk MJ. Concepts in soft tissue management, In: Yaremchuk MJ, Burgess AR, Brumback RJ, (eds). *Lower Extremity Salvage and Reconstruction. Orthopaedic and Plastic Surgical Management*, New York, NY, USA: Elsevier Science; 1989. pp. 95–106.
28. Falanga V, ed. *Cutaneous Wound Healing*. London: Martin Dunitz; 2001.
29. Hess CT, ed. *Clinical Guide: Wound Care*. Philadelphia: Lippincott Williams & Wilkins; 2005.
30. Hunt TK, Hopf HW. Wound healing and wound infection. What surgeons and anesthesiologists can do. *Surg Clin North Am*. 1997;77:587.
31. Mustoe T. Understanding chronic wounds: a unifying hypothesis on their pathogenesis and implications for therapy. *Am J Surg*. 2004;187:65S.
32. Robson MC, Steed DL, Franz MG. Wound healing: biologic features and approaches to maximize healing trajectories. *Curr Probl Surg*. 2001;38:72.
33. Redon H. Closing of large wounds by suppression. *Presse Med* 1955; 63:1034.
34. Kostiuchenok BM, Kolker KVA II, Ignatenko SN, et al. [Vacuum treatment in the surgical management of suppurative wounds]. *Vestnik Khirurgii II Grek* 1986;137:18–21.
35. Usupov Y, Yepifanov M. Active wound drainage. *Vestnik Khirurgii* 1987;4:42–5.
36. Chariker M, Jeter K, Tintle T. Effective management of incisional and cutaneous fistulae with closed suction wound drainage. *Contemp Surg* 1989;34:59–63.

References

37. Fleischmann W, Lang E, Russ M. Treatment of infection by vacuum sealing. *Unfallchirurg* 1997;100:301–4.
38. Fleischmann W, Russ M, Westhauser A, et al. Vacuum sealing as carrier system for controlled local drug administration in wound infection. *Unfallchirurg* 1998;101:649–54.
39. Fleischmann W, Strecker W, Bombelli M, et al. Vacuum sealing as treatment of soft tissue damage in open fractures. *Unfallchirurg* 1993; 96:488–92.
40. Argenta LC, Morykwas MJ. Vacuum-assisted closure: a new method for wound control and treatment: clinical experience. *Ann Plast Surg* 1997;38:563–76.
41. Morykwas MJ, Argenta LC, Shelton-Brown EI, et al. Vacuum-assisted closure: a new method for wound control and treatment: animal studies and basic foundation. *Ann Plast Surg* 1997;38:553–62.
42. Center EE. BP-negative pressure wound therapy devices. Technology assessment report. Prepared Agency Healthc Res Qual (AHRQ) 2009; Contract No. 290–2007-10063. Project ID: WNDT1108. Rockville, MD: AHRQ.
43. Gustafsson R. Understanding topical negative pressure therapy. European Wound Management Association (EWMA). Position Document: Topical negative pressure in wound management. London: MEP Ltd, 2007.
44. Winter GD. Formation of the scab and the rate of epithelization of superficial wounds in the skin of the young domestic pig. *Nature* 1962;193:293–4.
45. Kamolz LP, Andel H, Haslik W, et al. Use of subatmospheric pressure therapy to prevent burn wound progression in human: first experiences. *Burns* 2004;30:253–8.
46. Simman R, Forte R, Silverberg R, et al. A comparative histological pilot study of skin graft take with tie-over bolster dressing versus vacuum assisted closure in a pig model. *Wounds* 2004;16:76–80.
47. Wackenfors A, Sjogren J, Gustafsson R, et al. Effects of vacuumassisted closure therapy on inguinal wound edge microvascular blood flow. *Wound Repair Regen* 2004;12:600–6.
48. Wackenfors A, Gustafsson R, Sjogren J, et al. Blood flow responses in the peristernal thoracic wall during vacuum-assisted closure therapy. *Ann Thorac Surg* 2005;79:1724–3.
49. Lindstedt S, Paulsson P, Mokhtari A, et al. A compare between myocardial topical negative pressure levels of -25 mm Hg and -50 mm Hg in a porcine model. *BMC Cardiovasc Disord* 2008;8:14.
50. Lindstedt S, Malmsjo M, Sjogren J, et al. Impact of different topical negative pressure levels on myocardial microvascular blood flow. *Cardiovasc Revasc Med* 2008;9:29–35.

References

51. Timmers MS, Le Cessie S, Banwell P, et al. The effects of varying degrees of pressure delivered by negative-pressure wound therapy on skin perfusion. *Ann Plast Surg* 2005;55:665–71.
52. Kairinos N, Solomons M, Hudson DA. Negative-pressure wound therapy. I: the paradox of negative-pressure wound therapy. *Plast Reconstr Surg* 2009;123:589–98.
53. Kairinos N, Voogd AM, Botha PH, et al. Negative-pressure wound therapy. II: negative-pressure wound therapy and increased perfusion. Just an illusion? *Plast Reconstr Surg* 2009;123:601–12.
54. Fabian TS, Kaufman HJ, Lett ED, et al. The evaluation of subatmospheric pressure and hyperbaric oxygen in ischemic full-thickness wound healing. *Am Surg* 2000;66:1136–43.
55. Chen SZ, Li J, Li XY, et al. Effects of vacuum-assisted closure on wound microcirculation: an experimental study. *Asian J Surg* 2005; 28:211–7.
56. Scherer SS, Pietramaggiore G, Mathews JC, et al. The mechanism of action of the vacuum-assisted closure device. *Plast Reconstr Surg* 2008;122:786–97.
57. Morykwas MJ, Faler BJ, Pearce DJ, et al. Effects of varying levels of subatmospheric pressure on the rate of granulation tissue formation in experimental wounds in swine. *Ann Plast Surg* 2001;47:547–51.
58. Joseph E, Hamori C, Bergman S, et al. A prospective randomized trial of vacuum assisted closure versus standard therapy of chronic nonhealing wounds. *Wounds* 2000;12:60–7.
59. Labler L, Rancan M, Mica L, et al. Vacuum-assisted closure therapy increases local interleukin-8 and vascular endothelial growth factor levels in traumatic wounds. *J Trauma* 2009;66:749–57.
60. Takei T, Rivas-Gotz C, Dellling CA, et al. Effect of strain on human keratinocytes in vitro. *J Cell Physiol* 1997;173:64–72.
61. Osol G. Mechanotransduction by vascular smooth muscle. *J Vasc Res* 1995;32:275–92.
62. Saxena V, Hwang CW, Huang S, et al. Vacuum-assisted closure: microdeformations of wounds and cell proliferation. *Plast Reconstr Surg* 2004;114:1086–96.
63. Moues CM, Vos MC, van den Bemd GJ, et al. Bacterial load in relation to vacuum-assisted closure wound therapy: a prospective randomized trial. *Wound Repair Regen* 2004;12:11–7.
64. Moisisidis E, Heath T, Boorer C, et al. A prospective, blinded, randomized, controlled clinical trial of topical negative pressure use in skin grafting. *Plast Reconstr Surg* 2004;114:917–22.

References

65. Braakenburg A, Obdeijn MC, Feitz R, et al. The clinical efficacy and cost effectiveness of the vacuum-assisted closure technique in the management of acute and chronic wounds: a randomized controlled trial. *Plast Reconstr Surg* 2006;118:390–7.
66. Ladwig GP, Robson MC, Liu R, et al. Ratios of activated matrix metalloproteinase-9 to tissue inhibitor of matrix metalloproteinase-1 in wound fluids are inversely correlated with healing of pressure ulcers. *Wound Repair Regen* 2002;10:26–37.
67. Kirsner RS, Eaglstein WH. The wound healing process. *Dermatol Clin* 1993;11:629–40.
68. Stechmiller JK, Kilpadi DV, Childress B, et al. Effect of vacuumassisted closure therapy on the expression of cytokines and proteases in wound fluid of adults with pressure ulcers. *Wound Repair Regen* 2006;14:371–4.
69. Greene AK, Puder M, Roy R, et al. Microdeformational wound therapy: effects on angiogenesis and matrix metalloproteinases in chronic wounds of 3 debilitated patients. *Ann Plast Surg* 2006;56:418–22.
70. Moues CM, van Toorenenbergen AW, Heule F, et al. The role of topical negative pressure in wound repair: expression of biochemical markers in wound fluid during wound healing. *Wound Repair Regen* 2008;16:488–94.
71. Weed T, Ratliff C, Drake DB. Quantifying bacterial bioburden during negative pressure wound therapy: does the wound VAC enhance bacterial clearance? *Ann Plast Surg* 2004;52:276–9.
72. Pinocy J, Albes JM, Wicke C, et al. Treatment of periprosthetic soft tissue infection of the groin following vascular surgical procedures by means of a polyvinyl alcohol-vacuum sponge system. *Wound Repair Regen* 2003;11:104e9.
73. Wu SH, Zecha PJ, Feitz R, et al. Vacuum therapy as an intermediate phase wound closure: a clinical experience. *Eur J Plast Surg* 2000;23:174e7
74. Mehbod AA, Ogilvie JW, Pinto MR, et al. Postoperative deep wound infections in adults after spinal fusion: management with vacuumassisted wound closure. *J Spinal Disord Tech* 2005;18:14–7.
75. Kotz S, Balakrishnan N, Read CB, Vidakovic B. *Encyclopedia of statistical sciences*. 2nd ed. Hoboken, N.J.: Wiley-Interscience; 2006.
76. Kirkpatrick LA, Feeney BC. *A simple guide to IBM SPSS statistics for version 20.0*. Student ed. Belmont, Calif.: Wadsworth, Cengage Learning; 2013.
77. R. A. F. Clarke and P. M. Henson, Eds., *The Molecular and Cellular Biology of Wound Repair*, Plenum Press, New York, NY, USA, 1988.
78. I. K. Cohen, R. F. Diegelmann, and W. J. Lindblad, *Wound Healing: Biochemical and Clinical Aspects*, WB Saunders, Philadelphia, Pa, USA, 1992.

References

79. Hunt TK. "Vascular factors govern healing in chronic wounds," in *Clinical and Experimental Approach to Dermal and Epidermal Repair: Normal and Chronic Wounds*, A. Barbul, M. D. Caldwell, W. H. Eaglstein et al., Eds., pp. 1–17, Wiley & Leiss, New York, NY, USA, 1991.
80. Pierce GF, Vande Berg J, Rudolph R, Tarpley J, Mustoe TA. Platelet-derived growth factor-BB and transforming growth factor beta1 selectively modulate glycosaminoglycans, collagen, and myofibroblasts in excisional wounds. *American Journal of Pathology* 1991; 138(3): 629–46.
81. Laiho M, Keski OJ. Growth factors in the regulation of pericellular proteolysis: a review. *Cancer Research* 1989; 49 (10): 2533–53.
82. Whitby DJ, Ferguson MWJ. "Immunohistological studies of the extracellular matrix and soluble growth factors in fetal and adult wound healing," in *Fetal Wound Healing*, N. S. Adzick and M. T. Longaker, Eds., pp. 161–177, Elsevier Science, New York, NY, USA, 1992.
83. Kucan JO, Robson MC, Hegggers JP. "Comparison of silver sulfadiazine, povidone-iodine and physiologic saline in the treatment of chronic pressure ulcers," *Journal of the American Geriatrics Society*, 1981; 29(5): 232–5.
84. Armstrong DG, Lavery LA. Negative pressure wound therapy after partial diabetic foot amputation: a multicentre, randomised controlled trial. *Lancet* 2005; 366:1704 –10.
85. Blume PA, Walters J, Payne W, et al. Comparison of negative pressure wound therapy using vacuum-assisted closure with advanced moist wound therapy in the treatment of diabetic foot ulcers: a multicenter randomized controlled trial. *Diabetes Care* 2008;31:631– 6.
86. Eginton M, Brown K, Seabrook G, et al. A prospective randomized evaluation of negative-pressure wound dressings for diabetic foot wounds. *Ann Vasc Surg* 2003;17:645–9.
87. McCallon S, Knight C, Valiulus J, et al. Vacuum-assisted closure versus saline-moistened gauze in the healing of postoperative diabetic foot wounds. *Ostomy Wound Manage* 2000;46:28 –34.
88. Etöz A, Ozgenel Y, Ozcan M. The use of negative pressure wound therapy on diabetic foot ulcers: a preliminary controlled trial. *Wounds* 2004;16:264 –9.
89. Expert Working Group. Vacuum assisted closure: recommendations for use. A consensus document. *Int Wound J* 2008;5(suppl 4):iii–19.
90. Ford CN, Reinhard ER, Yeh D, et al. Interim analysis of a prospective, randomized trial of vacuum-assisted closure versus the Healthpoint system in the management of pressure ulcers. *Ann Plast Surg* 2002; 49:55– 61.
91. Wanner MB, Schwarzl F, Strub B, et al. Vacuum-assisted wound closure for cheaper and more comfortable healing of pressure sores: a prospective study. *Scand J Plast Reconstr Surg Hand Surg* 2003;37: 28–33.

References

92. Smith N. The benefits of VAC therapy in the management of pressure ulcers. *Br J Nurs* 2004;13:1359–65.
93. Schwien T, Gilbert J, Lang C. Pressure ulcer prevalence and the role of negative pressure wound therapy in home health quality outcomes. *Ostomy Wound Manage* 2005;51:47–60.
94. Vuerstaek JD, Vainas T, Wuite J, et al. State-of-the-art treatment of chronic leg ulcers: a randomized controlled trial comparing vacuum assisted closure (V.A.C.) with modern wound dressings. *J Vasc Surg* 2006;44:1029–37.
95. Argenta LC, Morykwas MJ. Vacuum-assisted closure: a new method for wound control and treatment: a clinical exposure. *Ann Plast Surg.* 1997;38(6):563-76; discussion 577.
96. Clare MP, Fitzgibbons TC, McMullen ST. Experience with the vacuum assisted closure negative pressure technique: the treatment of non-healing diabetic and dysvascular wounds. *Foot Ankle Int.* 2002;23(10):896-901.
97. Wysocki AB, Staiano-Colo L, Grinnell F. Wound fluid from chronic leg ulcers contains elevated levels of metalloproteinases MMP-2 and MMP-9. *J Invest Dermatol* 1993;101(1):64-8.
98. Levy E, Frileux P, Cugnenc PH, Honiger J, Ollivier JM, Parc R. High-output external fistulae of the small bowel: management with continuous enteral nutrition. *Br J Surg* 1989;76:676–9.
99. Sitges-Serra A, Jaurrieta E, Sitges-Creus A. Management of post-operative enterocutaneous fistulas: the roles of parenteral nutrition and surgery. *Br J Surg* 1982;69:147–50.
100. Hyon SH, Martinez-Garbino JA, Benati ML, Lopez-Avellaneda ME, Brozzi NA, Argibay PF. Management of a high-output postoperative enterocutaneous fistula with a vacuum sealing method and continuous enteral nutrition. *ASAIO J* 2000;46:511–4.
101. Müllner T, Mrkonjic L, Kwasny O, Ve'csei V. The use of negative pressure to promote the healing of tissue defects: a clinical trial using the vacuum sealing technique. *Br J Plast Surg* 1997;50(3):194–9.
102. DeFranzo AJ, Argenta LC, Marks MW, Molnar JA, David LR, Webb LX, et al. The use of vacuum-assisted closure therapy for the treatment of lower-extremity wounds with exposed bone. *Plast Reconstr Surg* 2001;108:1184–91.
103. Banwell PE, Musgrove M. Topical negative pressure therapy: mechanisms and indications. *Int Wound J* 2004;1:95–106.
104. Banwell PE, Teot L. Topical negative pressure (TNP): the evolution of a novel wound therapy. *J Wound Care* 2003;12:22–8.
105. Lund T, Wiig H, Reed RK. Acute postburn edema: role of strongly negative interstitial fluid pressure. *Am J Physiol* 1988;255:H1069–74.

References

106. Meara JG, Guo L, Smith JD, Pribaz JJ, Breuing KH, Orgill DP. Vacuum-assisted closure in the treatment of degloving injuries. *Ann Plast Surg* 1999; 42:589–94.
107. Josty IC, Ramaswamy R, Laing JH. Vacuum assisted closure: an alternative strategy in the management of degloving injuries of the foot. *Br J Plast Surg* 2001;54:363–5.
108. DeFranzo AJ, Marks MW, Argenta LC, Genecov DG. Vacuum-assisted closure for the treatment of degloving injuries. *Plast Reconstr Surg* 1999;104:2145–8.
109. Ghani U, Malik M, Hussain Z, Javed-Ur-Rehman, Shukr I. Vacuum assisted closure (VAC) therapy for difficult wound management. *PAFJ* 2009;6(2):
110. Barker DE, Kaufman HJ, Smith LA, Ciraulo DL, Richart CL, Burns RP. Vacuum pack technique of temporary abdominal closure: a 7-year experience with 112 patients. *J Trauma* 2000;48:201–6.
111. Swan MC, Banwell PE. The open abdomen: aetiology, classification and current management strategies. *J Wound Care* 2005;14:7–11.
112. Saggi BH, Sugerman HJ, Ivatury RR, Bloomfield GL. Abdominal compartment syndrome. *J Trauma* 1998;45:597–609.
113. Scherer LA, Shiver S, Chang M, Meredith JW, Owings JT. The vacuum assisted closure device: a method of securing skin grafts and improving graft survival. *Arch Surg* 2002;137:930–3.
114. Senchenkov A, Knoetgen J, Chrouser KL, Nehra A. Application of vacuum assisted closure dressing in penile skin graft reconstruction. *Urology* 2006;67(2):416-9.
115. Bickles J, Kollender Y, Witing JC, Cohen N, Maller I, Malawer MM. Vacuum-assisted closure after resection of musculoskeletal tumours. *Clin Orthopaed Rel Res* 2005;441:346-50.
116. Armstrong DG, Lavery LA, Boulton AJM. Negative pressure wound therapy via vacuum-assisted closure following partial foot amputation: what is the role of wound chronicity. *Int Wound J* 2007;4 (1):79-86.
117. Hugo NE, Sultan MR, Ascherman JA, Patsis MC, Smith CR, Rose EA. Single-stage management of 74 consecutive sternal wound complications with pectoralis major myocutaneous advancement flaps. *Plast Reconstr Surg* 1994;93:1433–41.
118. Conquest AM, Garofalo JH, Maziarz DM, Mendelson KG, Su Sun Y, Wooden WA, et al. Hemodynamic effects of the vacuum-assisted closure device on open mediastinal wounds. *J Surg Res* 2003;115:209–13.
119. Gustafsson RI, Sjogren J, Ingemansson R. Deep sternal wound infection: a sternal-sparing technique with vacuum-assisted closure therapy. *Ann Thorac Surg* 2003;76:2048–53.

References

120. Philbeck TE, Whittington KT, Millsap MH, Briones RB, Wight DG, Schroeder WJ. The clinical and cost effectiveness of externally applied negative pressure wound therapy in the treatment of wounds in home healthcare Medicare patients. *Ostomy Wound Manage* 1999; 45(11): 41-50.
121. Collier. Know-how: A guide to vacuum-assisted closure (VAC). *Nurs Times* 1997; 93(5): 32-3.
122. Tang AT, Ohri SK, Haw MP. Novel application of vacuum assisted closure technique to the treatment of sternotomy wound infection. *Eur J Cardiothorac Surg* 2000; 17(4): 482-4.
123. Friedman T, Westreich M, Shalom A. Vacuum assisted closure treatment complicated by anasarca. *Ann Plast Surg* 2005;55(4):420-1.
124. Price RD, Nagarajan M, Srinivasan JR. Local anaesthetic for change of vacuum assisted closure dressing. *Plast Reconstr Surg* 2006;117(7):2537-8.
125. Blackburn JH, Boemi L, Hall WW, Jeffords K, Hauck RM, Banducci DR, et al. Negative pressure dressings as a bolster for skin grafts. *Ann Plast Surg* 1998;40(5):453-7.

١٢٦. الملخص العربي

١٢٧. الجروح المزمنة هي أكثر شيوعاً في المرضى المسنين والذين يعانون من مشاكل صحية متعددة. مع شيخوخة السكان يتوقع زيادة في كل من حدوث وتكلفة الجروح المزمنة.
١٢٨. الجروح التي لا تتدمل تؤثر على حوالي ٣ إلى ٦ ملايين شخص في الولايات المتحدة، مع أشخاص ٦٥ عاماً فما فوق يمثل ٨٥٪ من هذه الأحداث. الجروح التي لا تتدمل نتيجة في نفقات الرعاية الصحية الهائلة، مع تكلفة إجمالية تقدر بأكثر من ٣ مليارات دولار سنوياً.
١٢٩. هناك العديد من العوامل التي يمكن أن تؤثر على التئام الجروح التي تتداخل مع واحد أو أكثر من مراحل هذه العملية، مما يؤدي إلى إصلاح غير لائق أو ضعف في الأنسجة، عموماً الجروح التي قد فشلت أن تظهر الشفاء، بما في ذلك تأخر الجروح الحادة والجروح المزمنة إلى التقدم من خلال المراحل الطبيعية للشفاء. هذه الجروح في كثير من الأحيان يدخلون في حالة من التهاب مرضية نتيجة لعملية الشفاء تأجيل، غير مكتملة، أو غير منسقة.
١٣٠. العلاج المغلق المساعد بالفراغ ينطوي على التطبيق الموحد من الضغط السلبي المستمر أو المتقطع إلى الجرح منقولا عبر الأسفنج ذات المسام المفتوحة.
١٣١. وقد نسبت الآليات التالية للعلاج المغلق المساعد بالفراغ: يخلق بيئة رطبة، ويقلل من التورم، ويزيد من تدفق الدم المحلي، ويحفز الأوعية الدموية وتشكيل النسيج الحبيبي الصحي، ويحفز تكاثر الخلايا، ويقلل من حجم وتعقيد الجرح، ويزيل مثبتات الشفاء القابلة للذوبان من الجروح، ويقلل من الحمل البكتيري.
١٣٢. والهدف من دراستنا لتقييم دور العلاج المغلق المساعد بالفراغ في إدارة الجروح المعقدة.
١٣٣. وقد أجريت الدراسة لثلاثين مريض الذين يعانون من الجروح المعقدة، في وحدة جراحة التجميل قسم الحوادث و وحدة الحروق في المستشفى الرئيسي في جامعة الاسكندرية.
١٣٤. وشملت الدراسة ١٧ من الذكور (٥٦.٧٪) و ١٣ من الإناث (٤٣.٣٪). وتراوح أعمارهم من ٣ سنوات إلى ٧٠ سنة مع ١٩ مريضاً (٦٣.٣٪) فوق ٣٠ سنة و ١١ مريضاً (٣٦.٧٪) أقل من ٣٠ عاماً. وكان متوسط العمر ٣٨ عاماً.
١٣٥. وتعرض جميع المرضى إلى أخذ التاريخ الكامل والفحص الكامل، الفحوصات المخبرية الروتينية والموافقة المستنيرة المكتوبة قبل تطبيق العلاج المغلق المساعد بالفراغ.
١٣٦. وكشفت نتائج الدراسة الحالية أن من بين ٣٠ مريضاً، كان السبب الأكثر شيوعاً الصدمات، مع وجود ١٣ مريضاً نتيجة حوادث مرور، و وجود ظروف طبية مرتبطة مع المرضى. مع المرض الأكثر شيوعاً هو مرض السكري. وكان الموقع التشريحي الأكثر شيوعاً للجروح الطرف السفلي، مع وجود ٨ مرضى يعانون من جروح في الساق و ٨ مرضى في القدم. أطول قطر للجروح تراوح بين ٣ سم إلى ٤٤ سم مع متوسط القطر ٢٠.٣ سم. وتراوح الانخفاض في حجم الجرح من ١٠٪ إلى الشفاء التام مع متوسط انخفاض ٤٣.٦٪. وتراوح عدد غيارات العلاج المغلق المساعد بالفراغ من ٤ غيارات إلى ٨ غيارات مع متوسط عدد ٧ غيارات. اتخذت مدة هذه الغيارات من ٢ إلى ٨ أسابيع مع متوسط مدة ٣.٥ أسابيع. من بين ٣٠ مريضاً مع غيارات العلاج المغلق المساعد بالفراغ، ٢١ حالة (٧٠٪) خضعت إلى ترقيع جلد و أظهرت ٦ حالات (٢٠٪) الشفاء العفوي، في حين خضعت حالتين (٦.٧٪) إلى شريحة جلدية وأغلقت حالة واحدة مباشرة.



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رسالة مقدمة

لقسم الجراحة - كلية الطب - جامعة الإسكندرية
ضمن متطلبات درجة

الماجستير

فى

الجراحة

من

محمد فاروق خليل المغربى
بكالوريوس الطب والجراحة، ٢٠٠٨
كلية الطب، جامعة الإسكندرية

[٢٠١٥]



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رسالة مقدمة من

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للحصول على درجة

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في

الجراحة

التوقيع

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لجنة المناقشة والحكم على الرسالة

أ.د/ أحمد على خشبة

أستاذ جراحة التجميل والاصلاح

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التاريخ

لجنة الإشراف

موافقون

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أ.م.د/ حسام يحيى الكفراوي

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