

INTRODUCTION .....	xvi
STUDY GOALS AND OBJECTIVES.....	xvi
REASONS FOR DOING THE STUDY .....	xvi
SCOPE AND FORMAT .....	xvi
METHODOLOGY .....	xvii
RELATED BCC MARKET RESEARCH REPORTS .....	xvii
ANALYST CREDENTIALS.....	xviii
BCC RESEARCH ONLINE SERVICES .....	xviii
DISCLAIMER .....	xviii
EXECUTIVE SUMMARY .....	xix
<i>SUMMARY TABLE TOTAL ADVANCED WOUND CARE MARKET BY</i>	
<i>SELECTED SEGMENT, THROUGH 2011 (\$ MILLIONS)</i> .....	XX
<i>SUMMARY FIGURE TOTAL ADVANCED WOUND CARE MARKET BY</i>	
<i>SELECTED SEGMENT, THROUGH 2011 (\$ MILLIONS)</i> .....	XX
INDUSTRY OVERVIEW.....	1
HISTORICAL WOUND CARE OVERVIEW .....	1
HISTORICAL WOUND CARE ... (CONTINUED).....	2
THE PROCESS OF WOUND HEALING .....	3
Inflammatory Phase .....	4
Destructive Phase.....	5
Proliferative Phase .....	5
Maturation .....	6
Healing by Secondary Intention .....	6
Factors Affecting Wound Healing.....	7
GENERAL HEALTH .....	7
Smoking .....	7
Age.....	7
Nutritional Status .....	8
Obesity .....	8
Fluid and Electrolyte Balance.....	8
Immunosuppressed or Compromised Individuals.....	9
Drugs.....	9
Radiation Therapy.....	9
NUTRITION IN WOUND HEALING.....	9
COMPLICATIONS OF WOUND HEALING .....	10
Scarring.....	10
Adhesions .....	10
Dehiscence .....	11
Evisceration .....	11
Infection .....	11
Hemorrhage .....	12
Fistulas .....	12

WOUND TYPES AND DEMOGRAPHICS .....	12
Wound Types and Demographics (Continued) .....	13
Acute Wounds .....	14
Surgical Wounds/Incision .....	14
Traumatic Wounds .....	14
Lacerations .....	14
Abrasions .....	15
Contusions .....	15
Chronic Wounds.....	15
Pressure Ulcers.....	16
<i>TABLE 1 COMMON SITES FOR PRESSURE ULCER DEVELOPMENT</i>	
( <i>% OF OCCURRENCE</i> ).....	17
STAGING.....	18
<i>TABLE 2 PRESSURE ULCER STAGING</i> .....	18
Venous Insufficiency Ulcers .....	19
Arterial Ulcers .....	19
Diabetic or Neuropathic Ulcers.....	20
<i>TABLE 3 ESTIMATED DIABETES INCIDENCE BY AGE GROUP, 2005</i> .....	20
Diabetic or Neuropathic Ulcers (Continued) .....	21
BURN WOUNDS.....	22
Burn Classifications .....	22
<i>TABLE 4 BURN CLASSIFICATIONS</i> .....	22
<i>TABLE 4 (CONTINUED)</i> .....	23
Stages of Burn Healing .....	23
Stages of Burn Healing (Continued) .....	24
<i>TABLE 5 U.S. INCIDENCE OF SELECTED CONDITIONS AFFECTING</i>	
<i>THE WOUND CARE MARKET</i> .....	25
<i>FIGURE 1 U.S. INCIDENCE OF SELECTED CONDITIONS</i>	
<i>AFFECTING THE WOUND CARE MARKET (%)</i> .....	25
<i>TABLE 6 ESTIMATED INCIDENCE BY AGE GROUP AND WOUND</i>	
<i>TYPE (%)</i> .....	26
<i>FIGURE 2 ESTIMATED INCIDENCE BY AGE GROUP AND WOUND</i>	
<i>TYPE (%)</i> .....	26
THE AGING U.S. POPULATION .....	27
<i>TABLE 7 U.S. POPULATION ESTIMATES AND PROJECTIONS BY</i>	
<i>AGE GROUP FOR SPECIFIC YEARS, 1900-2050 (THOUSANDS)</i> .....	27
<i>FIGURE 3 U.S. POPULATION ESTIMATES AND PROJECTIONS, BY</i>	
<i>AGE GROUP FOR SPECIFIC YEARS, 1900-2050 (THOUSANDS)</i> .....	28
<i>TABLE 8 ESTIMATED U.S. POPULATION BY AGE GROUP,</i>	
<i>THROUGH 2011 (THOUSANDS)</i> .....	29
<i>FIGURE 4 ESTIMATED U.S. POPULATION BY AGE GROUP, 2004-</i>	
<i>2011 (THOUSANDS)</i> .....	29
GENDER AND AGE .....	29

<i>TABLE 9 ESTIMATES OF ANTICIPATED U.S. LIFE EXPECTANCY AT BIRTH AND PROJECTIONS, BY SEX, 2000-2011 (YEARS)</i> .....	30
<i>FIGURE 5 ESTIMATES OF ANTICIPATED U.S. LIFE EXPECTANCY AT BIRTH AND PROJECTIONS, BY SEX (YEARS)</i> .....	30
ECONOMIC Impact of Wounds and Wound Management.....	31
GOVERNMENT REGULATION OF DEVICES .....	31
INTERNATIONAL DEVELOPMENTS IN WOUND CARE.....	32
<i>TABLE 10 TOTAL WOUND CARE MARKET BY WORLD REGION, 2005 (\$ BILLIONS)</i> .....	32
<i>FIGURE 6 TOTAL WOUND CARE MARKET BY WORLD REGION, 2005 (%)</i> .....	33
RECENT INTERNATIONAL DEVELOPMENTS.....	33
<i>TABLE 11 SELECTED INTERNATIONAL DEVELOPMENTS AND APPROVALS</i> .....	33
<i>TABLE 11 (CONTINUED)</i> .....	34
International Stem Cell Research .....	34
International Stem Cell Research (Continued) .....	35
ISSUES AFFECTING THE MARKET .....	36
REIMBURSEMENT ISSUES.....	36
MILITARY WOUND CARE .....	36
BATTLEFIELD WOUND CARE .....	37
Battlefield Wound Care (Continued) .....	38
High-tech Bandages .....	39
DEVELOPMENT OF BATTLEFIELD WOUND CARE.....	40
Hemoglobin-based Oxygen Carriers .....	40
GOVERNMENT FUNDED DEVELOPMENT.....	41
FUTURE RESEARCH .....	42
Stem Cell Research.....	42
Gene Therapy.....	43
Light-emitting Diodes .....	43
Light-emitting Diodes in Conjunction with Laser Diodes .....	44
<i>TABLE 12 COMPANIES OFFERING LIGHT-EMITTING DIODE DEVICES FOR WOUND CARE</i> .....	45
<i>TABLE 12 (CONTINUED)</i> .....	46
<i>IN VITRO VS. IN VIVO</i> .....	46
<i>TABLE 13 ADVANTAGES OF IN VIVO AND IN VITRO TISSUE GROWTH</i> .....	46
<i>In Vitro</i> .....	47
<i>In Vivo</i> .....	48
ALTERNATIVE WOUND CARE.....	49
Alternative Wound Care (Continued).....	50
GOVERNMENT Funded research .....	51
TECHNOLOGY.....	51
Current Technology Uses .....	51

Tissue-engineered Skin Substitutes .....	51
Skin Regeneration Matrices .....	52
TECHNOLOGY PATENT ANALYSIS .....	53
TABLE 14 U.S. PATENT EVALUATION OF MAJOR WOUND CARE- RELATED TECHNOLOGY BY ISSUE DATE .....	53
TABLE 14 (CONTINUED).....	54
TABLE 14 (CONTINUED).....	55
TABLE 14 (CONTINUED).....	56
TABLE 15 U.S. PATENT EVALUATION OF MAJOR ADVANCED WOUND CARE RELATED TECHNOLOGY BY NUMBER OF PATENTS PER PATENT HOLDER.....	56
TABLE 15 (CONTINUED).....	57
BIOLOGICAL DRESSINGS .....	57
MARKET ANALYSIS AND ... (CONTINUED) .....	58
PRODUCT DESCRIPTION .....	59
TABLE 16 MANUFACTURERS OF BIOLOGIC DRESSINGS, 2006 .....	59
Artificial Skin/Skin Replacement .....	60
Collagen .....	61
Collagen (Continued) .....	62
Growth Factors .....	63
PRODUCTS IN DEVELOPMENT .....	63
TABLE 17 BIOLOGIC PRODUCTS IN DEVELOPMENT, 2006 .....	63
Market Analysis and Conclusion.....	64
MARKET ANALYSIS AND ... (CONTINUED) .....	65
TABLE 18 ESTIMATED MARKET REVENUES FOR BIOLOGICAL DRESSINGS BY PRODUCT SEGMENT, THROUGH 2011 (\$ MILLIONS).....	66
FIGURE 7 ESTIMATED MARKET REVENUES FOR BIOLOGICAL DRESSINGS BY PRODUCT SEGMENT, 2004-2011.....	66
MARKET ANALYSIS AND ... (CONTINUED) .....	67
TABLE 19 DISTRIBUTION OF REVENUES FOR BIOLOGICAL DRESSINGS BY WOUND TYPE, 2006 (%) .....	68
FIGURE 8 DISTRIBUTION OF REVENUES FOR BIOLOGICAL DRESSINGS BY WOUND TYPE, 2006 (%) .....	68
COMPETITIVE SUMMARY.....	68
TABLE 20 SUMMARY OF BIOLOGICAL DRESSINGS MARKET BY COMPETITOR REVENUES, 2006 (\$ MILLIONS) .....	69
FIGURE 9 SUMMARY OF BIOLOGICAL DRESSINGS MARKET BY COMPETITOR REVENUES, 2006 (\$ MILLIONS) .....	70
SURGICAL SEALANTS AND GLUES .....	70
PRODUCT DESCRIPTIONS.....	70
Product Descriptions (Continued).....	71
Product Descriptions (Continued).....	72

<i>TABLE 21 MANUFACTURERS OF SURGICAL SEALANTS AND GLUES, 2006</i> .....	73
Products in Development .....	73
<i>TABLE 22 VASCULAR SEALANT PRODUCTS IN DEVELOPMENT</i> .....	74
MARKET ANALYSIS AND CONCLUSIONS .....	74
<i>TABLE 23 ESTIMATED MARKET REVENUES FOR SURGICAL SEALANTS AND GLUES, THROUGH 201 (\$ MILLIONS)</i> .....	75
<i>FIGURE 10 ESTIMATED MARKET REVENUES FOR SURGICAL SEALANTS AND GLUES, 2004-2011 (\$ MILLIONS)</i> .....	75
COMPETITIVE SUMMARY.....	76
<i>TABLE 24 SUMMARY OF THE SURGICAL SEALANTS AND GLUES MARKET BY COMPETITOR REVENUES, 2006 (\$ MILLIONS)</i> .....	77
<i>FIGURE 11 SUMMARY OF THE SURGICAL SEALANTS AND GLUES MARKET BY COMPETITOR REVENUES, 2006 (%)</i> .....	77
SYNTHETIC DRESSINGS.....	77
PRODUCT DESCRIPTION .....	78
Alginate Dressings.....	78
<i>TABLE 25 ALGINATE DRESSING MANUFACTURERS, 2006</i> .....	79
Alginate Dressings (Continued) .....	80
Alginate Dressings (Continued) .....	81
Film Dressings.....	82
<i>TABLE 26 FILM DRESSING MANUFACTURERS, 2006</i> .....	82
<i>TABLE 26 (CONTINUED)</i> .....	83
Film Dressings (Continued) .....	84
Foam Dressings .....	85
<i>TABLE 27 FOAM DRESSING MANUFACTURERS, 2006</i> .....	86
Foam Dressings (Continued) .....	87
Foam Dressings (Continued) .....	88
Hydrocolloid Dressings.....	89
<i>TABLE 28 HYDROCOLLOID DRESSING MANUFACTURERS, 2006</i> .....	90
Hydrocolloid Dressings (Continued) .....	91
Hydrogel Dressings .....	92
<i>TABLE 29 HYDROGEL DRESSING MANUFACTURERS, 2006</i> .....	93
<i>TABLE 29 (CONTINUED)</i> .....	94
Hydrogel Dressings (Continued) .....	95
Hydrogel Dressings (Continued) .....	96
MARKET ANALYSIS AND CONCLUSION .....	97
MARKET ANALYSIS AND ... (CONTINUED).....	98
<i>TABLE 30 ESTIMATED MARKET REVENUES FOR SYNTHETIC DRESSINGS BY PRODUCT SEGMENT, THROUGH 2011 (\$ MILLIONS)</i> .....	99
<i>FIGURE 12 ESTIMATED MARKET REVENUES FOR SYNTHETIC DRESSINGS BY PRODUCT SEGMENT, 2004-2011 (\$ MILLIONS)</i> .....	99

<i>TABLE 31 REVENUE DISTRIBUTION FOR SYNTHETIC DRESSINGS BY WOUND TYPE, 2006 (\$ MILLIONS)</i>	100
<i>FIGURE 13 REVENUE DISTRIBUTION FOR SYNTHETIC DRESSINGS BY WOUND TYPE, 2006 (%)</i>	100
COMPETITIVE SUMMARY	101
<i>TABLE 32 SUMMARY OF THE SYNTHETIC DRESSINGS MARKET BY COMPETITOR REVENUES, 2006 (\$ MILLIONS)</i>	101
<i>FIGURE 14 SUMMARY OF THE SYNTHETIC DRESSINGS MARKET BY COMPETITOR REVENUES, 2006 (%)</i>	102
ANTIADHESION AND OTHER RELATED WOUND-HEALING PRODUCTS	102
Antiadhesion Products	102
Enzymatic/Hypertonic Saline Debriding Agents	103
PRODUCT DESCRIPTION	103
<i>TABLE 33 MANUFACTURERS OF ANTIADHESION AND OTHER ADVANCED WOUND CARE PRODUCTS, 2006</i>	103
Product Description (Continued)	104
PRODUCTS IN DEVELOPMENT	105
<i>TABLE 34 MANUFACTURERS OF ANTIADHESION PRODUCTS AND OTHER ADVANCED WOUND CARE PRODUCTS IN DEVELOPMENT, 2006</i>	106
MARKET ANALYSIS AND CONCLUSIONS	107
<i>TABLE 35 ESTIMATED MARKET FOR ANTIADHESION AND OTHER WOUND HEALING PRODUCTS BY SEGMENT, THROUGH 2011 (\$ MILLIONS)</i>	107
<i>FIGURE 15 ESTIMATED MARKET FOR ANTIADHESION AND OTHER WOUND HEALING PRODUCTS BY SEGMENT, 2004-2011 (\$ MILLIONS)</i>	108
<i>TABLE 36 REVENUE DISTRIBUTION FOR ANTIADHESION AND OTHER WOUND HEALING PRODUCTS BY WOUND TYPE, 2006 (%)</i>	109
<i>FIGURE 16 REVENUE DISTRIBUTION FOR ANTIADHESION AND OTHER WOUND HEALING PRODUCTS BY WOUND TYPE, 2006 (%)</i>	109
COMPETITIVE SUMMARY	109
<i>TABLE 37 SUMMARY OF ANTIADHESION AND OTHER WOUND HEALING MARKETS BY COMPETITOR REVENUES, 2006 (\$ MILLIONS)</i>	110
<i>FIGURE 17 SUMMARY OF ANTIADHESION AND OTHER WOUND HEALING MARKETS BY COMPETITOR REVENUES, 2006 (\$ MILLIONS)</i>	111
WOUND HEALING DEVICES	111
PRODUCT DESCRIPTIONS	112
<i>TABLE 38 ADVANCED WOUND HEALING DEVICE MANUFACTURERS, 2006</i>	112

Electrical Stimulation Devices and Electromagnetic Therapy .....	112
Electromagnetic Therapy .....	113
Vacuum-assisted Closure (VAC) .....	114
Hyperbaric Oxygen Devices .....	115
Epiflo (Transdermal Sustained Oxygen Delivery) .....	116
Other Devices.....	116
Radio Frequency (RF) Stimulus.....	116
External Tissue Expander (Proxiderm).....	117
Ultrasonic Wound Debridement .....	118
LED Therapy .....	118
MARKET ANALYSIS AND CONCLUSION .....	118
MARKET ANALYSIS AND ... (CONTINUED).....	119
<i>TABLE 39 ESTIMATED MARKET FOR WOUND HEALING DEVICES BY PRODUCT SEGMENT, THROUGH 2011 (\$ MILLIONS)</i> .....	120
<i>FIGURE 18 ESTIMATED MARKET FOR WOUND HEALING DEVICES BY PRODUCT SEGMENT, 2004-2011 (\$ MILLIONS)</i> .....	120
<i>TABLE 40 REVENUE DISTRIBUTION FOR WOUND HEALING DEVICES BY WOUND TYPE, 2006 (%)</i> .....	121
<i>FIGURE 19 REVENUE DISTRIBUTION FOR WOUND HEALING DEVICES BY WOUND TYPE, 2006 (%)</i> .....	121
COMPETITIVE SUMMARY.....	122
<i>TABLE 41 SUMMARY OF THE WOUND HEALING DEVICE MARKET BY COMPETITOR REVENUES, 2006 (\$ MILLIONS)</i> .....	122
<i>FIGURE 20 SUMMARY OF THE WOUND HEALING DEVICE MARKET BY COMPETITOR REVENUES, 2006 (%)</i> .....	123
PRODUCT COST ANALYSIS .....	123
<i>TABLE 42 COST ANALYSIS BY PRODUCT AND MANUFACTURER</i> .....	123
<i>TABLE 42 (CONTINUED)</i> .....	124
MARKET SUMMARY.....	124
<i>FIGURE 21 TRADITIONAL VS. ADVANCED WOUND CARE TREATMENT GROWTH, 2004-2011 (% CHANGE)</i> .....	125
TOTAL ADVANCED WOUND CARE MARKET ANALYSIS .....	125
<i>TABLE 43 ANALYSIS OF TOTAL U.S. MARKET FOR ADVANCED WOUND CARE PRODUCTS BY TYPE, THROUGH 2011 (\$ MILLIONS)</i> .....	126
<i>FIGURE 22 ANALYSIS OF TOTAL U.S. MARKET FOR ADVANCED WOUND CARE PRODUCTS BY TYPE, 2004-2011 (\$ MILLIONS)</i> .....	127
<i>TABLE 44 REVENUE DISTRIBUTION BY TYPE OF ADVANCED WOUND CARE, 2006 (%)</i> .....	128
<i>FIGURE 23 REVENUE DISTRIBUTION BY TYPE OF ADVANCED WOUND CARE, 2006 (%)</i> .....	128
INDUSTRY PARTICIPANTS BY TYPE.....	129
<i>TABLE 45 MAJOR INDUSTRY PARTICIPANTS BY PRODUCT TYPE</i> .....	129

<i>TABLE 45 (CONTINUED)</i> .....	130
<i>FIGURE 24 DISTRIBUTION OF MAJOR INDUSTRY PLAYERS BY PRODUCT SEGMENT PARTICIPATION (%)</i> .....	131
COMPANY PROFILES .....	132
3M HEALTH CARE .....	132
BARD MEDICAL DIVISION .....	132
BAXTER INTERNATIONAL .....	133
CARRINGTON LABORATORIES, INC. ....	134
COLOPLAST A/S .....	134
CONMED CORP. ....	135
CONVATEC, LTD. ....	135
DATASCOPE CORP. ....	136
DERMA SCIENCES, INC. ....	136
ETHICON, INC. ....	137
GENZYME BIOSURGERY .....	138
KENDALL .....	138
KINETIC CONCEPTS, INC. ....	139
LIFECELL CORP. ....	139
ORGANOGENESIS, INC. ....	140
SMITH & NEPHEW PLC .....	141
ST. JUDE MEDICAL .....	141
WRIGHT MEDICAL TECHNOLOGY, INC. ....	142
APPENDIX .....	143
COMPANY LISTINGS .....	143
COMPANY LISTINGS (CONTINUED) .....	144
COMPANY LISTINGS (CONTINUED) .....	145
COMPANY LISTINGS (CONTINUED) .....	146
COMPANY LISTINGS (CONTINUED) .....	147
COMPANY LISTINGS (CONTINUED) .....	148
COMPANY LISTINGS (CONTINUED) .....	149
COMPANY LISTINGS (CONTINUED) .....	150
COMPANY LISTINGS (CONTINUED) .....	151
COMPANY LISTINGS (CONTINUED) .....	152
COMPANY LISTINGS (CONTINUED) .....	153