

# Index

- A
- Ab Aquapendente, H. F., 129
- Abernethy, J., 74, 78, 101
- Abscess of Brodie, 127
- Ackerknecht, E. H., 35
- Africa
- amputation practices in, 32, 36, 39–40, 41–42, 46
  - attitudes toward pain in, 83
- Alanson, E., 25, 49, 72, 117, 143, 146, 147
- infection control policy of, 80, 88
- Albucasis, 29, 31–32, 55, 57, 112, 129
- Alcohol
- as anaesthetic agent, 85, 103–104, 110
  - as wound cleanser, 88
- Alden, Peter, 9, 92
- American Indians, amputation practices among, 36, 37, 39
- Amputated limbs, patients' preservation of, 104–105
- Amputatio*, 1
- Amputation: an Historical Sketch* (Longmore), 7
- Amputation: Surgical Practice and Patient Management* (Murdoch and Wilson), 6, 165
- Amputation for War Wounds* (Coupland), 10
- Amputations. *See also* Auto-amputations; Elective amputations; Flap amputations; Guillotine-type amputations; Lower limb procedures; Punitive amputations; Ritual amputations; Upper limb procedures; *specific surgical procedures*
- accidental/traumatic, 4, 96, 125
- as complete or near-complete transections, 23–26
  - primitive weaponry-related, 45
- ad hoc, 128–129
- alternatives procedures to, 10, 77–80
- bilateral, 144
- by burning, 47–48
  - congenital, 100
  - definitions and terminology related to, 1–5
  - delayed, 106, 128
  - first book illustration of, 7
  - iatrogenic, 35, 40–43
  - immediate, 50–51, 52–53, 63–64, 75–77, 86, 99, 100–101, 104, 128
  - indications for, 125–128
  - interpretation of, 96–109
    - by patients, 100–105
    - by society, 96–100
    - by surgeons, 105–107
  - natural, 4
  - near-traumatic, 49, 125
  - patients' insistence on, 100–101, 125–126
  - previous historical works on, 5–11
  - self-inflicted. *See* Auto-amputation
  - speed of, 46, 86
  - surgical levels and procedures in, 128–129
  - unnecessary, 43
- Amputations and Protheses* (Vitali, Robinson, and Andrews, et al.), 6
- Amputations* (Gillis), 6
- Amputees. *See also* Military amputees
- bilateral, Krukenburg conversion in, 151
  - congenital, 97
  - rehabilitation of, 102–103, 155, 168–169
  - societal attitudes toward, 13, 14, 96–97, 100, 105
- Anaesthesia
- benefits of, 107
  - chloroform, 26, 88, 91, 107
  - during Crimean War, 91
  - early attitudes toward, 107
  - effect on stump management, 153
  - 1846 to recent times, 83–88
  - ether, 75, 83, 86, 87–88, 93, 107
  - first amputation performed under, 87, 88
  - for flap amputations, 75
  - general, 68, 83, 91, 114, 122
  - during medieval period, 58
  - morphine, 84, 85
  - opium, 84
  - patient's rejection of, 87
- Anatomical dissections, as hand injury cause, 29
- Anderson, Thomas, 89
- Andrews, Brian, 6, 125, 134, 135, 136, 137, 138–139, 140, 151, 153, 164–165

- Anel, Dominique, 78  
 Aneurysms, 78, 127  
*A new Way of Amputation* . . . (Yonge), 64  
 Anglesey, Marquess of. *See* Earl of Uxbridge  
 Anglesey prosthetic limb, 49–50, 159–160  
 Anglo-Saxons, 58  
 Animals, auto-amputation in, 4, 32  
 Ankle disarticulation, Syme's procedure, 75, 132, 162, 165–166  
 Antisepsis, Listerian, 7, 8, 10, 29, 51–52, 89–91, 91, 107, 126, 147  
   surgeons' opposition to, 51, 89  
 Antyllus, 78  
 Apodia, 14  
 Archigenes, 7, 57, 113  
 Arm. *See also* Upper limb procedures  
   blood supply to, 137  
*Armamentarium Chirurgicum* (Schultes/Scultetus), 63  
 Armstrong, P. F., 151  
 Arsenic, 55  
 Artificial limbs. *See* Prostheses  
 Asepsis, 29. *See also* Antisepsis  
 Assalini's tenaculum, 114  
 Association of Limb Manufacturers of America, 164  
 Astrology, 99  
 Atherosclerosis, 14, 127  
 Athletes, with prosthetic limbs, 166–167  
 Australian aborigines, 47–48  
 Auto-amputation, 4, 37–38, 125  
   criminal, 37  
   in entrapped victims, 4, 32–33, 100, 125, 129  
   during 5th century B. C., 156  
   following surgeon's refusal to amputate, 126
- B**  
*Bacillus fusiformis*, 20  
 Bacteriology, 90  
 Bader, Douglas, 169  
 Bandages  
   for haemorrhage control, 85  
   as ligatures, 111  
   misapplied, 41  
   for pain control, 85
- Bannockburn, Battle of, 38  
 Barber-surgeons, 58  
 Battle-related trauma. *See also* Gunshot trauma; *names of specific wars and battles*  
   amputations for  
     immediate, 50–51, 52–53, 86  
     logistical factors affecting, 52–53  
     pain associated with, 86  
     primitive weaponry-related, 45  
     rate of, 92  
     as routine practice, 27  
     during 17th century, 63–64  
     from 1846 to recent times, 91–92  
     cold steel injuries, 45–48  
 Baudens, J. B. L., 130, 132  
 Bayeux Tapestry, 38, 45  
 Beaufort, Comte de, 160, 161  
 Bell, Benjamin, 68, 72–73, 75, 117–118, 120, 132, 133, 135, 146  
 Bell, Charles, 52, 69–70, 79, 107, 114, 122, 137, 146–147  
   *Illustrations of the Great Operations of Surgery*, 130  
 Bell, John, 68, 69, 112–113  
 Belloste, A., 79  
 Below-elbow amputations. *See* Upper limb procedures  
 Below-knee amputations. *See* Lower limb procedures  
 Bennion, Edward, 77  
 Benzoin, tincture of, 77  
 Bernard, Charles, 101  
 Besancon, siege of, 111  
 Bible, 13, 38, 83  
 Biencourt, L., 77  
 Bigg, H., 152, 160, 161, 162, 163, 168  
 Bilguer, M., 10, 68, 76, 77, 106, 126, 128  
   *A Dissertation on the Inutility of the Amputation of Limbs*, 10, 76  
 Bite wounds, 24, 29–30, 57–58, 128  
 Blandin, P.-A., 74, 130  
 Blood vessel occlusion,  
   instrumental, 113–114  
 Bly, D. 160–162  
 Bock, Otto, 166–167  
 Boddam, John, 24
- Boiling oil, 48  
 Bone tumours, 20–21, 74, 127, 140  
 Bosch, Hieronymous, 128–129, 147, 156  
 Botallo, L., 59  
 Boucher, Mons., 76–77  
 Bourgerie, J. M., 75  
 Boyd, H. B., 132  
 Boyes, J., 40, 48  
 Boyle, J., 24–25  
 Brachial artery  
   cold steel injuries to, 47  
   ligation of, 78  
 Brachial plexus injury, 127–128  
 Bradley, William, 157  
 Brambilla, G. A., 117, 120  
 Brand, Paul, 165  
 British Army  
   Medical Director of, 7  
   World War I Casualty Clearing Stations of, 129  
 Broca, A., 134, 168  
 Brodie, B. C., 79–80  
 Bromine, 91  
 Brueghel, Pieter, 128–129, 144, 156  
 Brunshwig, H., 1, 2, 49, 58, 119  
 Bryant, J. D., 77, 138, 139–140, 146  
 Bryant, T., 52, 146, 148–149  
 Bubonic plague, 17, 18  
*Buch der Chirurgia* (Brunshwig), 1  
 Burma, 96–97  
 Burning, as amputation method, 47–48  
 Butcher, R. G. H., 78
- C**  
 Caesarian section, 85  
 Calot, Émile, 156  
*Campbell's Operative Orthopaedics*, 151  
 Cannonball trauma, 49, 74  
 Carbolic acid. *See* Phenol  
 Carden, H. D., 135, 138  
 Caries, 127. *See also* Tuberculosis  
 Catholic Church, 58, 98  
 Causalgia, 149, 150  
 Causes of amputation/  
   dismemberment  
   accidental, 23  
   cold steel and gunshot, 45  
   natural, 13  
   ritual, punitive, legal, 35

- Cautery, 56, 57, 69, 147  
 during Crimean War, 91  
 of gunshot trauma, 57, 58, 60, 64, 91  
 heated, 47–48, 51, 57, 112–113, 128  
 potential, 113  
 pre-Renaissance, 56, 64  
 during 17th century, 61  
 during 18th century, 69
- Cautery-knives, 119
- Ceci's cineplastic procedure, 151
- Celsus, Aurelius Cornelius, 7, 55–56, 57, 113, 114, 129
- Charrière, J.-F., 114, 115
- Chauliac, Guy de, 55, 85, 111, 128
- Chelius, J. M., 130, 148
- Cheselden, W., 30, 68, 71, 73, 135, 146
- Children  
 amputations in, 83–84, 101–102  
 auto-amputations, 32  
 for entrapped limbs, 93  
 ritual amputations, 98  
 survival rate in, 62  
 for tuberculous joints, 93  
 antipersonnel mine-related  
 injuries to, 99–100  
 frostbite in, 16–17
- Chirurgie Française, La* (Guillemeau), 3
- Chisels, as amputation  
 instruments, 32, 45–46, 119, 125, 129, 137
- Chlorine, 88
- Chloroform, 26, 88, 91, 107
- Chopart's foot disarticulation  
 procedure, 73, 130–131, 132
- Circular incision techniques, 75, 80, 129, 135, 136, 146  
 for finger and hand  
 amputations, 137  
 modifications of, 71–72, 75  
 for shoulder disarticulation, 139  
 as “sugar-loaf” deformity cause, 71–72  
 18th century to 1846, 71–73  
 for upper arm amputation, 139
- Civil War  
 American, 5, 91, 107, 128, 139, 161–162  
 British, 139, 157  
 “Clapper legs,” 159
- Clark, Francis, 103
- Clarke, Will, 103–104  
*Clinical Cases and Commentaries* (Spence), 26
- Clowes, W. A., 1, 9, 60, 98, 117
- Club feet, 126
- Cold steel injuries, 45–48
- Comte de Beaufort, 160, 161
- Congenital abnormalities, 13–14, 126
- Contractures, 150
- Cooper, Astley Paston, 55, 128
- Cooper, Samuel, 6–7, 73–74, 85, 86, 147
- Cossacks, 87
- Coupland, R. M., 10–11, 97, 100, 118–119, 121  
*Amputation for War Wounds*, 10
- Courbon, A., 40
- Cox, W. S., 74, 85, 103
- Crawford, Pat, 32
- Crecy, Battle of, 58
- Cresol, 78, 88
- Crimean War, 91, 107, 139, 160
- Croce, Andrea de, 59, 116, 119
- Crocodile bites, 24
- Crowther, J., 29, 77–78, 88
- Crush injuries, 24, 25–26, 92, 102, 126, 137–138
- Crutches, 128–129, 156
- Cuidad Roderigo, Spain, siege of, 74
- Culbertson, H., 78
- Cuming, R., 140
- Cushing, H., 112, 113
- Cyurgie of Guy de Chauliac*, 1
- Cystitis, 148
- D**
- Daniell, W. F., 97
- Death, operative, 98
- De Beaufort, Comte, 160, 161
- Debridement, 79
- Deep-sea divers, auto-amputation  
 in, 4, 32
- De Gangraena et Sphacelo* (Fabry), 14
- De La Charrière, J., 2, 133
- De La Motte, G. M., 24, 29, 42
- Demarcation line, in amputations, 55, 56, 57, 58, 59, 62, 63  
 gangrenous, 32, 55  
 Woodall on, 62
- Deny, G., 115
- Desault's femoral artery ligation  
 procedure, 78, 120
- Deschamps's femoral artery  
 ligation procedure, 78
- Desoutter, Charles, 163
- Desoutter, Marcel, 163
- Diabetes mellitus, 19–20, 92, 127
- Diathermy, surgical, 113
- Dictionary of Practical Surgery, A* (Cooper), 6–7
- Dictionnaire Royal, Le* (Boyer), 2
- Digits. *See also* Finger  
 amputations; Toe  
 amputations  
 amputations of  
 instrumentation for, 60–61  
 natural amputations, 35  
 congenital absence/near absence  
 of, 13–14  
 supernumerary, 126
- Dionis, P., 68–69, 76, 85, 120, 133
- Dioscorides, 84
- Disarticulation, 2, 4. *See also*  
*specific types of*  
*disarticulation and lower*  
*limb procedures*  
 avulsion, 30–31
- Discourse of the Whole Art of*  
*Chirurgie, A* (Lowe), 1
- Dismemberment, 1–2  
 natural causes of, 13–22
- Dissertation on the Inutility of the*  
*Amputation of Limbs, A*  
 (Bilguer), 10, 76
- Double incision. *See* Circular  
 incision techniques
- Doyen, E., 113
- Dressings, 77  
 for compound fractures, 77–78, 88  
 heat sterilisation of, 90  
 for infection control, 88  
 for stumps, 52
- Ducroquet, Charles, 134, 168
- Dugum Dani tribe, 35–36, 98
- Duhamel, G., 33, 56–57, 104
- Duke of Wellington (Arthur  
 Wellesley), 50
- Dupuytren, Guillaume, 7, 130, 139, 147
- E**
- Earl of Uxbridge, 45, 49–50, 159–160

- East India Company, 39, 63  
 East Indies, 156  
*Ecclesia abhorret a sanguine*, 58  
 Elbow disarticulation, 139  
 Elbow excision, 127  
 Elderly patients, amputation in, 107  
 Eldridge, J. C., 151  
 Elective amputations. *See also*  
   Circular incision techniques; Flap amputations; Guillotine-type amputations  
   from beginning to late 17th century, 55–67  
   pre-Renaissance, 55–58  
   18th century to 1846, 68–82  
     alternative procedures to amputation, 77–80  
     circular operative techniques, 71–73  
     flap and transfixion amputations, 73–75  
     haemorrhage control, 68–71  
     opposition to immediate amputations, 75–77  
     technological and per-operative factors, 80  
   1846 to recent times, 83–95  
     amputations during civil life, 92–93  
     infection control for, 88–91  
     pain control for, 83–88  
     warfare-related amputations, 91–92  
 Electrocoagulation, 113  
 Elkington, George, 80  
 Elkington, Henry, 80  
 Elliotson, John, 85–86  
 Elliptical incisions, 74–75, 139  
 Elmslie, R. C., 131, 134, 139, 140, 152  
 Embryos, *in utero* surgery on, 4  
 Entrapment. *See* Limb entrapment  
 Epstein, S., 156  
 Ergot poisoning, 13, 16–17, 58, 128, 143, 144  
   auto-amputation for, 32  
   patron saints of, 16, 17  
 Erichsen, J., 25–26  
 Erysipelas, 16, 17–18, 148  
 Esdaile, James, 86  
 Eshelby, Thomas, 84  
 Esmarch, J. F. A., 112  
 Ether, 75, 83, 86, 87–88, 93, 107  
 Euphoria, battlefield wounds-related, 86  
*Evolution of Orthopaedic Surgery, The* (Robinson), 9  
 “*Evolution of the surgical management of severe lower extremity trauma*” (Alden and Shaw), 8–9  
 Exchaquet, Deny G., 115  
 Exsanguination, of limbs, 112  
 Extirpation, 1  
 F  
 Fabry (Hildanus), Wilhelm, 14, 42, 46, 60–61, 63, 86, 111, 113–114, 116, 119, 120, 134, 137  
 Falls, as compound fracture cause, 29  
 Farabeuf, L.-H., 8, 121, 131, 132, 133, 139, 140  
 Felkin, R. W., 85  
 Femoral (above-knee) amputation. *See* Lower limb procedures, above-knee amputations  
 Femoral artery  
   cold steel injuries to, 47  
   ligation of, 78, 83–84  
 Femur, fractures of, 18, 20  
 Fergusson, W., 78, 89, 96, 106, 127  
 Ferrus chloride, as wound dressing, 91  
 Fibula, congenital absence of, 14  
 Finger amputations, 137–138  
   during Crimean War, 91  
   disarticulation in, 137–138  
   guillotine amputations, 137  
   natural amputations, 35  
   punitive amputations, 38  
   ritual amputations, 98  
   societal attitudes toward, 100  
   during 19th century, 74  
   traumatic amputations, 24  
   without anaesthesia, 87  
 Fingers. *See also* Thumb reattachment of, 144  
 Flap amputations, 3, 129, 164  
   during 16th century, 73  
   during 17th century, 64–65, 73  
   during 18th century, 73–74  
   during 19th century, 9, 74–75  
   anaesthesia for, 75  
   calculation of flap dimensions in, 73  
   femoral (above-knee), 135, 136  
   for hip disarticulations, 74, 136–137  
   with soft-tissue flaps, 73, 74  
   for toes, 129–130  
   transfixion method, 64–65, 87  
   of Verduin, 70  
 Fontanelles, 42  
 Fontenoy, Battle of, 76  
 Foot amputations, 73, 118, 132  
   Chopart’s procedure, 73, 130–131, 132  
   Lisfranc’s procedure, 74, 118, 130, 131  
   punitive amputations, 39–40  
   Syme’s procedure, 75, 132, 162, 165–166  
   during 18th century, 73  
   during 19th century, 74  
   through tarsometatarsal joints, 74  
 Forceps  
   bone-cutting, 119  
   “crow’s-beak,” 68–69  
   dissecting spring, 71  
   haemostatic artery, 114–116  
   tenaculum artery, 70–71  
   18th-century, 68–69  
   19th-century, 70–71  
 Forearm amputations, 91, 138–139  
 Foreign-body contamination, of gunshot wounds, 49–51, 52, 59, 105  
 Forequarter amputations, 140  
 Forequarter avulsion, at the shoulder, 30  
 Fractures  
   compound  
     amputation treatment for, 26–29, 106  
     antiseptic prophylaxis for, 10, 89  
     auto-amputations for, 56–57  
     conservative treatment for, 77  
     dressings for, 77–78, 88  
     expectant policy for, 78  
     femoral, during World War I, 92  
     gangrene associated with, 26  
     gunshot trauma-related, 53  
     horse-related, 27–29  
     immediate amputation for, 52

- Listerian antiseptics for, 89  
 non-amputation treatment  
   for, 29, 126  
 pre-Renaissance treatment for,  
   56  
 in sailors, 24  
 during second century, A.D.,  
   56  
 stabilisation with metal  
   implants, 29  
 non-amputation treatment for,  
   29, 77–78, 126  
 open, 56  
   femoral, during World War I,  
     92  
   tumours associated with, 127  
 Franco, Pierre, 59, 116, 119,  
   121–122  
 Franco-Prussian War, 91  
 French Royal Academy of Surgery,  
   76  
 Friedmann, M. D., 39  
 Frostbite, 15–16, 39, 91, 126–127,  
   143
- G**  
 Gale, T., 1, 59  
 Galen, 55, 57, 113  
 Galvanocautery, 113  
 Gangrene  
   amputation treatment for,  
     14–15  
     immediate amputations, 102  
     pre-Renaissance, 55–58, 129  
     during 17th century, 62  
   antiseptics-related prevention of,  
     90  
   bacterial infection-related, 17–18  
   in diabetics, 19–20  
   dry, 15  
   frostbite-related, 16–17, 126–127  
   gas, 15, 18–19, 92, 126, 129  
     guillotine amputations for,  
       145–146  
     scarring associated with, 149  
   hospital, 43, 53, 91, 148  
   misapplied splints/tourniquets-  
     related, 41–42, 111  
   non-amputation treatment for,  
     55, 76  
   senile, 15  
   as spontaneous amputation  
     cause, 128  
   toxins-related, 13, 16–17  
     vascular failure-related, 143  
     venesection-related, 42  
 Garengot, R., 73, 74, 117, 119, 133,  
   137  
 Gargas Cave, France, 35, 36  
 Garrison, F. G., 156  
 Gersdorff, H., 48, 58–59, 85, 111,  
   116  
*Geschichte der Chirurgie* (Gurlt), 8  
 Gettysburg, Battle of, 104, 156  
 Gillis, Leon, 6, 37–38, 150–151, 164  
 Gooch, B., 72  
 Gordon, C. A., 96–97  
 Gordon-Taylor, G., 137  
 Gout, 101  
 Gritti, R., 135  
 Gross, Samuel, 9, 83, 106, 121, 138,  
   139, 140  
 Gruber von Arni, E. E., 157  
 Guillemeau, J., 2, 3, 60  
 Guillot, Dr., 2  
 Guillotine, as amputation  
   instrument, 86, 119  
 Guillotine-type amputations, 70,  
   143  
   below-elbow, 3  
   below-knee, 3  
   definition of, 2, 4  
   early evolution to late 17th  
     century, 55–67  
   of the fingers and hand, 137  
   healing of, 144  
   impaired, 98  
   implication for limb  
     reattachment, 144  
   metatarsal, 130  
   reamputation of, 149  
   as ritual amputation, 98  
   stump management of,  
     145–146  
   surgical instrumentation for,  
     125, 129  
   during 17th century, 45–46,  
     62–63  
   transverse, 38  
 Gunpowder, 48–49  
 Gunshot trauma, 48–51, 105  
   amputation treatment for, 9  
     from 14th century to late 17th  
       century, 58–64  
     during 15th century, 4, 58–60  
     during 16th century, 4, 58–60,  
       103  
     during 17th century, 60–64  
     during 18th century, 76–77,  
       126  
     during 19th century, 49–50  
     alternatives to, 10, 48–49  
     immediate, 50–51, 52–53,  
       63–64, 75–77, 126  
     during the Korean War, 8  
     patients' attitudes toward,  
       103–104  
     timing of, 76–77, 77  
     during World War I, 8, 91–92  
     during World War II, 8  
   clinical periods of, 76–77  
   complicated by fractures, 76, 77  
   debridement of, 79  
   early treatment methods for, 105  
   foreign-body contamination of,  
     49–51, 52, 59, 105  
   gunpowder-related blackening  
     of, 48–49, 105  
   to the hand, 137–138  
   involving shoulder  
     disarticulation, 139–140  
   non-amputation treatment for,  
     10, 48–49  
     during 15th century, 105  
 Gurkha Rifles, 102  
 Gurlt, Ernst, 8  
 Guthrie, 74, 77, 106, 139  
 Guy de Chauliac, 55, 85
- H**  
 Haddan, C. C., 100, 139, 140, 150,  
   152, 158, 163, 164,  
   169  
 Haemorrhage, cold steel injuries-  
   related, 47  
 Haemorrhage control, 68–71. *See*  
   also Cautery; Ligation and  
   ligatures  
   during 2nd century A. D., 57  
   during 17th century, 61, 62–63  
   during 18th century, 51, 107  
   from 18th century to 1846, 68–71  
   during 19th century, 50, 51  
   with bandages and tourniquets,  
     110, 111  
   development of, 8, 110  
   for gunshot wounds, 58–59, 60,  
     61, 64  
   with haemostatic artery forceps,  
     114–116  
   with limb exsanguination, 112  
   pre-Renaissance, 56, 57–58

- Haemostats, 71  
Hall, Hedley, 41  
Hall, John, 107  
Haly Abbas, 57  
Hammurabi, Code of Laws of, 40, 98  
Hancock, H., 130, 131, 132  
Hand  
    artificial, 156, 157, 158, 160  
    puncture wounds to, 29  
Hand amputations, 137–138  
    disarticulation in, 137–138  
    instrumentation for, 60–61  
    punitive amputations, 39–40  
    without anaesthesia, 87  
Hand transplantation, 167–168  
Hanger, J. E., 161, 163  
Harley, G. W., 4, 46, 96, 119  
Harris, R. I., 132  
Harrison, Thomas, 157  
Hastings, Battle of, 45  
Hegesistratus, 156  
Heister, L., 15, 45, 49–50, 68, 69, 117  
Heliiodorus, 111  
Hemimelia, 14  
Henbane, 84  
Hennen, J., 47, 77, 106  
Herbs, use in infection control, 88  
Herodotus, 31  
Hey, W., 68, 73, 130, 133  
High-velocity injuries, 23, 93. *See also* Gunshot trauma  
Hildanus, Guilelmus Fabricius. *See* Fabry (Hildanus), Wilhelm  
Hilton-Simpson, M. W., 97  
Hindquarter amputation, 137  
Hindus, 86  
Hip disarticulation, 27, 73–74, 136–137  
    during 18th century, 73  
    during 19th century, 73–74, 85  
    during American Civil War, 91  
    in gunshot trauma-related amputations, 53  
    pain control during, 85  
    with unhealed stump, 103  
Hippocrates, 6, 35, 57, 114, 128  
Hippocratic writings, 55  
Hobbs of London, 120  
Hooper, A., 35  
Horse-related injuries, 27–29  
Hospital of the Old Guard, 77  
Hospital of the Savoy, 157  
Hot liquids, as stump dressing, 48  
Hubert, Richard, 27  
Huggins, G. M., 145–146  
Hugh of Lucca, 84  
Humerus, disarticulated, with bony overgrowth, 148  
Hunt, A., 32  
Hunter, G. A., 131  
Hunter, John, 78, 79, 106  
Hurley, V., 92  
Hypnosis, 85–86  
  
**I**  
Ice application, for pain control, 85  
Iliac artery, external, ligation of, 78  
*Illustrations of the Great Operations of Surgery* (Bell), 130  
Immersion feet, 16  
Incisions. *See also* Circular incision techniques; Elliptical incisions; Racquet incisions; Triple incision technique  
    calculation of location of, 73  
India, amputation practices in, 58  
    hypnosis use during, 86  
    punitive amputations, 39  
    ritual amputations, 36–37  
Infection. *See also* Wound infection of bone, 127  
    as indication for amputation, 126  
Infection control, 80, 88–91. *See also* Antisepsis, Listerian, 80, 88–91  
Instrumentation and equipment, surgical, 10, 110–124. *See also* Forceps; Knives, surgical; Saws; Tourniquets  
    15th-century, 49  
    16th-century, 59, 60, 61, 99  
    17th-century, 45–46, 6061, 63, 64, 99, 100  
    18th-century, 68–69, 80, 135  
    18th century to 1846, 68–71  
    19th-century, 70–71, 80, 135  
    for finger and hand amputations, 137  
    general anaesthesia and, 122  
    for guillotine amputations, 125  
    for haemorrhage control, 68–71  
    heating and oiling of, 85  
    improved, 110  
    prehistoric, 5  
    for ritual amputations, 96  
sterilisation of  
    with autoclaves, 90  
    with heat sterilisation, 90–91  
    with Listerian antisepsis, 7, 8, 10, 29, 51–52, 89–91, 126, 147  
Insulin, 92  
International Association of Orthotists and Prosthetists, 164  
International Exhibition (1851), 160  
International Medical Congress (1876), 89  
International Society for the Welfare of Cripples, 164  
International Society of Prosthetics and Orthotics, 164, 166  
Islamic societies  
    compound fracture treatment in, 97–98  
    legal amputations in, 99–100  
    prohibition against elective amputations in, 99–100  
    punitive amputations in, 39–40, 97  
    Sharia law, 97, 99, 100  
Issues, 42  
  
**J**  
Janssens, P. A., 35, 37  
Japan, ritual amputation practices in, 37  
Johansson, H., 25  
Joint dislocations, 2  
Joint excision, 78, 98  
Joint injuries, as indication for amputation, 127  
Joint resection, 78  
Jones, J. F. D., 70  
  
**K**  
Keen, W. W., 91  
King's College, London, 89  
King's Evil, 101  
Kirk, R., 98  
Klenerman, L., 110  
Knee disarticulation/excision, 78–79, 127, 134–135, 166  
Knights, artificial limbs for, 156–157, 158, 159  
Knives, surgical, 116–119, 122–123, 129  
    18th-century, 46, 69, 80, 117–118

- 19th-century, 74, 80, 118  
 for foot amputations, 74  
 for limb transfixion, 75  
 Liston's, 118  
 Koch, Robert, 90  
 Koeberle, E., 114–115  
 Kolbe, D. W., 161  
 Koran, 39  
 Korean War, 8, 92  
 Krajbich, J. I., 151  
 Krukenburg conversion, 151
- L**  
 “*La méthode ovulaire*”, 74  
*Lancet*, 32  
 Langdale-Kelham, R. D., 134, 136, 139  
 Langenbeck, Bernhard von, 74, 112  
 Larrey, Dominique Jean, 68, 74, 77, 106, 136, 139–140  
 Lear, Edward, 130  
 Le Dran, H. F., 68, 69–70, 71, 73, 76, 130, 139, 146  
*Leech Books*, 58  
 Leeches, 148  
 Le Fort, L. C., 132  
 Legal amputations, 35, 38, 40, 48, 99–100, 119, 125, 128  
 Leishmaniasis, 39  
 Lemaire, J., 88–89  
 Lennander, K. G., 75  
 Leprosy, 39, 58, 165  
 Leriche, R., 87  
 Le Vay, D., 38–39  
 Ligation and ligatures, 113–114  
 17th-century, 62, 64  
 18th-century, 68–70, 78  
 for aneurysm reduction, 78  
 bandages as, 111  
 for gunshot wounds, 59, 60, 61, 64  
 as infection cause, 51  
 Lister on, 8  
 during 2nd century A. D., 57, 78  
 for pain control, 85  
 pre-Renaissance, 57–58  
 as secondary haemorrhage cause, 70  
 Lignerolles's subtalar procedure, 131  
 Limb ablation, 2  
 Limb avulsion, 125  
 Limb entrapment, amputations for, 4–5, 100, 102, 128  
 auto-amputations, 4, 32–33, 100, 125, 129  
 in children, 93  
 industrial machinery-related, 93  
 Limb reattachment, 31, 143–144  
 Limbs. *See also* Lower limb  
 procedures; Upper limb  
 procedures  
 congenital absence/near-absence of, 14  
 regeneration of, 4  
 Limb salvage, 144  
*versus* amputation, 107  
 Lisfranc, J., 74, 118, 130, 131, 135  
 Lister, Joseph, 5–6, 7–8, 51, 56, 71, 72, 77, 93, 112, 127, 137  
 antiseptic theory of, 7, 8, 10, 29, 51–52, 89–91, 107, 126, 147  
 Franco-Prussian War and, 91  
 as King's College Professor of Surgery, 89  
 limb root tourniquet of, 112  
 Liston, Robert, 7, 86, 87, 88, 135, 148  
 first use of ether by, 75, 87, 88  
*Practical Surgery*, 75  
 on speed of amputation, 86  
 surgical instruments of, 117, 118, 119  
 Little, E. M., 134, 135–136, 139, 140, 149, 155, 157, 158, 168  
 Lloyd, E. A., 93  
 Longmore, Thomas, 7  
 Louis, A., 71–72  
 Lowdham, C., 64  
 Lowe, P. A., 1, 60  
 Lower limb, traumatic avulsion of, at the hip, 30–31  
 Lower limb procedures, 129–137.  
*See also* Foot amputations;  
 Hip disarticulations  
 above-knee amputations, 14, 135–136  
 during 16th century, 60  
 during 17th century, 50–51, 60, 62–63  
 during Crimean War, 91  
 flap amputations, 135, 136  
 for gunshot wounds, 60, 91  
 ratio to below-knee amputations, 165  
 Woodall's methods, 62–63  
 below-knee amputations  
 during 17th century, 62  
 during 19th century, 75  
 haemorrhage control during, 62  
 Syme's technique, 75, 132, 162, 165–166  
 Woodall's methods for, 62  
 during Crimean War, 91  
 hindquarter amputations, 137  
 knee disarticulation/excision, 78–79, 127, 134–135, 166  
 metatarsal amputation, 130  
 midtarsal disarticulation, 130–131  
 subtalar disarticulation, 131  
 supracondylar (low femoral) amputation, 134–135  
 Syme's ankle disarticulation procedure, 75, 132, 162, 165–166  
 tarsometatarsal disarticulation, 130  
 tibiotalar amputation, 132  
 toe amputation and disarticulation, 129–130  
 transtalar amputation, 131  
 Lowther, James, 101  
 Lucas-Championniere, J., 89–90, 91  
 Lucknow, siege of, 85
- M**  
 MacCormac, William, 87, 89, 91, 115–116  
 Macewen, William, 90  
 Machinery-related injuries, as amputation cause, 23, 24, 25, 26, 30  
 Maggi, Bartolomeo, 59  
 Mahabharata, 36–37  
 Main, Thomas, 87  
 Malgaigne, J.-F., 7, 79, 111, 131, 137, 138, 139, 140  
 Mallets, as amputation instruments, 45–46, 125  
 Malt, Ronald, 143–144  
 Manchester University, 4  
 Mandrake, 84  
 Mangled Extremity Severity Score, 144  
 Mano tribe, 4, 96  
*Manuel de Médecine Opératoire* (Malgaigne), 111  
 Marcus Sergius, 156  
 Marks, A. A., 161, 163

- Marquess of Anglesey. *See* Earl of Uxbridge
- Martineau, Harriet, 84
- Masai tribe, 46, 119
- Massachusetts General Hospital, 87, 143–144
- Mathieu, L., 115
- Mayor, M., 2, 4, 46, 119
- McGowan, S. A., 131
- McKhann, C. F., 143–144
- McLean, E. M., 30–31
- Medical students, anatomical dissection-related deaths in, 29
- Medical treatment, as iatrogenic amputation cause, 40–43
- Medical Zoology and Mineralogy* (Stephenson), 29–30
- Mémoires de l'Académie de Chirurgie*, 31
- Meschig, R., 83
- Metatarsal amputation, 130
- Méthode de Traicter les Playes Faictes par Hacquebutes et aultres bastons à feu*, La (Paré), 60
- “*Méthode ovulaire, la*”, 74
- Midtarsal disarticulation, 130–131
- Military amputees  
of the Crimean War, 160  
immediate amputation in, 100–101  
of the Napoleonic Wars, 106–107  
with prosthetic limbs, 160, 161  
effect on military service, 102–103, 133, 169  
during 19th century, 161, 162  
of World War I, 104, 161, 163–164, 168  
of World War II, 164, 165, 169  
repeat elective amputations in, 60  
stump complications in, 148, 149  
stump preparation in, 152–153  
during 16th century, 103  
of World War I, 104, 140, 149, 161, 163–164, 165, 168, 169  
of World War II, 164, 165, 169
- Military surgeons  
opium use by, 84  
opposition to immediate amputation, 75–77  
role in amputation surgery development, 68, 75–77
- Millstein, S. G., 131
- Mines, antipersonnel, 10, 92, 99–100, 126
- Missile injuries. *See also* Gunshot trauma  
infection of, 27
- Moche culture, 156
- Modern History of Amputation Surgery and Artificial Limbs* (Wilson), 6
- Moore, J. A., 84–85, 86
- Morand, S. F., 45
- Moreau, P. F., 78, 127
- Morphine, 84, 85
- Morson, A. C., 84
- Mortification, gangrenous, 55, 56
- Mortuary rituals, amputation as, 35–36, 37, 98
- Moses, 13
- Moyle, J., 85
- Mummies, 6, 15, 157
- Murdoch, George, 6, 155, 166
- Muslim patients, preservation of amputated limbs by, 104
- Mutilation, amputation viewed as, 10–11
- Myoplasty, 134, 165
- N**
- Nagelschmidt, Carl Franz, 113
- Napoleonic Wars, 9, 74, 77, 79, 85, 106–107, 128, 139, 159–160
- National Academy of Science, Committee on Prosthetics Research and Development, 165
- National Health Service (U.K.), 164
- National Research Council of Canada, 164
- Natural disasters, as traumatic amputation cause, 25, 97
- Negligence, operative, 98–99, 128
- Nelaton, Auguste, 91
- Nelson, Horatio, 84, 114, 139
- Nerve compressors, 86
- Neuber, Gustav, 90
- Neurological deficits, as indication for amputation, 127–128
- Neuromas, 148–149
- Neuropathy, sensory  
diabetic, 20, 127  
hereditary, 127
- New Guinea, ritual amputation practices in, 35–36, 98
- New Way of Amputation . . .* (Yonge), 64
- Nightingale, Florence, 91
- Nile, Battle of, 84
- Nitrous oxide, 88
- Nivelle, Battle of, 106
- Nouveaux Eléments de Médecine Opératoire* (Velpéau), 7
- Nouvelle Méthode pour Amputer les Membres* (Verduin), 2, 3, 64, 65
- Nurses, amputations in, 29, 104
- Nussbaum, Ritter von, 90
- Nutritional deficiencies, 20, 127
- O**
- Ofiaeli, R. O., 41–42
- Oil, as stump dressing, 48
- Old Calabar, 97
- Olerud, S., 25
- Ollier, L., 78
- Opium, 84
- Orthopaedic Hospital, Copenhagen, 166
- Osseointegration, 167, 168
- Osteomyelitis, 127, 150
- Osteoplasty, 132, 165
- P**
- Packard, F., 39
- Padula, P. A., 39
- Paget, Henry. *See* Earl of Uxbridge
- Paget, James, 29
- Pain  
during amputations, 46  
as indication for amputation, 127  
societal attitudes toward, 83–84
- Pain control. *See also* Anaesthesia  
during 13th century, 58  
during 19th century, 50  
from 1846 to recent times, 83–88  
lack of, 65  
non-anaesthetic, 110
- Pakistan, 97
- Palmer's prosthetic leg, 160
- Pankhurst, R., 40
- Paquelin, C. A., 113
- Para-Olympic Games, 166–167, 169
- Paré, Ambroise, 1, 2, 27–28, 48–49, 59, 68–69, 103, 105, 113, 116, 137, 139, 146, 156–157



- Méthode de Traicter les Playes*  
*Faictes par Hacquebutes et*  
*aultres bastons à feu*, 60
- Paris, siege of, 91
- Park, H., 78, 127
- Pasquier, A. Y., 132
- Pasteur, Louis, 52, 89, 90
- Patient positioning, during  
 amputations, 121–122,  
 123
- Patients, attitudes toward  
 amputation, 100–105
- Paul of Aegineta, 14, 57
- Payne, J. F., 58
- Pean's forceps, 115
- Pearson, Esther, 25
- Peg-legs, 60, 132, 156–157  
 stumps for, 70
- Peltier, L., 137
- Perault's hip disarticulation, 136
- Perce, Jeremiah, 102
- Perkins, G., 134, 136, 139
- Perret, J.-J., 117
- Peru, 39, 156
- Petit, Jean-Louis, 51, 52, 68,  
 101–102, 107, 111, 117, 135,  
 138  
 circular (double) incision  
 method and, 71  
 tourniquet of, 6, 7, 8, 51, 69, 70,  
 75, 107, 111
- Petit Traité* (Franco), 59
- Pfolspeundt, Heinrich von, 58
- Phantom pain, 150
- Pharaohs. *See also* Mummies  
 arteriosclerosis in, 15
- Phenol, 8, 10, 78, 88–89, 89, 91
- Phlebitis, 148
- Phocomelia, 14
- Pirigov, N. I., 131, 132
- Plant remedies, pain-relieving,  
 84
- Plastic surgery, 9
- Plutarch, 13
- "Pobble operation," 130
- Postmortem examinations, hand  
 injuries during, 29
- Pott, P., 68, 77
- Powis, Elizabeth, 103
- Practica in arte chirurgia copiosa*  
 (Vigo), 1
- Practical Surgery* (Liston), 75
- Precis de Manuel Operatoire*  
 (Farabeuf), 9
- Prehistoric times  
 amputations during, 4–5, 6, 23  
 artificial limb use during, 156  
 treatment of accidental  
 amputees during, 97  
 weapon-related injuries during,  
 45
- Prisoners of war, 38–39, 127
- Prostheses, 155–171  
 5th-century B. C., 31  
 16th-century, 103, 144  
 17th-century, 143  
 19th-century, 159–163, 169  
 20th-century, 163–167, 169  
 21st-century, 107, 167–168, 169  
 advances in, 107  
 Anglesey's, 49–50, 149–150  
 bamboo, 40, 156  
 early history to late 18th  
 century, 156–159, 169  
 endoskeletal, 164  
 exoskeletal, 164  
 during the Middle Ages, 58  
 primitive, 17, 19, 39, 128–129  
 stump preparation for, 151–153  
 union with stump, 6
- Puerperal fever, 88
- Puncture wounds, 29
- Punic Wars, 156
- Punitive amputations, 35, 97, 119,  
 125, 156
- Purmannus, M. G., 46, 117, 119
- Pus, "laudable," 88
- Putti, V., 158
- Q**
- Queen Mary's Hospital,  
 Roehampton, 6, 134, 136,  
 151, 163–164, 167
- Quesnay, Mons., 15
- R**
- Racquet incisions, 74–75,  
 139–140
- Ravaton, M., 47, 68, 133
- Read, A. A., 1–2
- Reamputation  
 for gangrenous stumps, 148  
 for overlong stumps, 147  
 for stump complications, 151
- Reconstructive techniques, 9, 93
- Red Cross hospitals, 10–11
- Rehabilitation, of amputees,  
 102–103, 155, 168–169
- Religious beliefs  
 effect on attitudes toward pain,  
 83–84  
 toward amputation, 9, 97–98,  
 99–100
- Renaissance Europe, acceptance of  
 elective amputations in, 98
- Replantation, of limbs. *See* Limb  
 reattachment
- Retractors, 72, 121
- Ritual amputations, 35–38, 96, 98,  
 125
- Rivers, W. H. R., 96
- Robinson, Kingsley P., 6, 9, 125,  
 134, 135, 136, 137, 138–139,  
 140, 151, 153, 164–165
- Roehampton. *See* Queen Mary's  
 Hospital, Roehampton
- Rogers, S. L., 37
- Royal Academy of Music, 100
- Royal College of Surgeons, 38, 150  
 Anatomico-Pathological  
 Museum, 151  
 Hunterian Museum, 78  
 Museums, 157  
 Museum of Anatomy and  
 Pathology, 6
- Royal Marines, 102–103
- Royal Navy, 85
- Royal Society, 64
- "Royal Stiptick Water," 64
- Russo-Turkish War, 89–90
- Ryder, Hugh, 26–27, 65, 101
- Ryff, Walther, 59, 98, 99, 116, 119
- S**
- Sabanejeff's procedure, 135
- Sailors  
 amputations in  
 accidental, 24–25  
 gunshot trauma-related, 50  
 immediate, 63–64, 100–101  
 pain associated with, 86  
 pain control during, 85  
 patient's self-control during,  
 87  
 for tuberculous joints, 78  
 artificial limbs for, 157  
 gunshot trauma in, 53
- St. Bartholemew's Hospital,  
 London, 62
- St. Cosmos, 143, 145, 167–168
- St. Damien, 143, 145, 167–168
- St. Paul, 83, 112

- Saw-related injuries, 24
- Saws, as amputation instruments, 78, 119–120, 123, 129  
     during 16th century, 59, 60, 61  
     during 17th century, 62  
     during 18th century, 46, 69, 72
- Scapulohumeral amputation, 74
- Schimmelbusch, C., 90
- Schultes. *See* Scultetus, Johannes
- Scorpion bites, 29–30
- Scott, Michael, 84
- Scoutetten, H., 74–75, 130, 137
- Scrive, G., 91
- Scultetus, Johannes, 63, 117, 130, 137  
     *Armamentarium Chirurgicum*, 63
- Sedan, battle of, 87
- Sedillot, C., 130, 131, 133, 148
- Self-amputation. *See* Auto-amputation
- Semmelweis, Ignaz, 88
- Septicaemia, 42–43
- Setons, 42
- Sharia law, 97
- Shark bites, 23, 24–25
- Sharp, S., 117, 122, 130, 137, 146
- Shaw, William W., 9, 92
- Shin, amputation level through, 73
- Shoulder, disarticulation at, 69–70, 139–140
- Sickles, Daniel, 104–105, 156
- Sierra Leone, 24–25
- Signorigni, L., 85, 112
- Signorigni compressor, 85
- Silver nitrate, 8
- Simpson, James, 88
- Skey, K., 112
- Slocum, D. B., 151
- Smith, Jacqueline, 8
- Smith, S., 134–135
- Snake bites, 29
- Societal attitudes, toward amputation, 10–11
- Sollas, W. J., 36
- “*Some highlights in the history of amputation . . .*” (Wangensteen, Smith, and Wangenstein), 8
- Soporific sponge, 84
- South, John, 87–88
- South Korea, auto-amputation practices in, 38
- Spanish windlass, 69, 111
- Sparta, 13, 97
- Spear wounds, 47–48
- Spence, J., 26, 27, 28–29, 135  
     *Clinical Cases and Commentaries*, 26
- Sphacelus*, 14, 15
- Splinters, 50
- Splints  
     misapplied, 41–42  
     Thomas, 92
- Spongia somnifera, 58
- Stanley, P., 101
- Sterilisation practices. *See also* Antisepsis  
     chemical, 52  
     effect on stump healing, 147  
     thermal, 52, 90, 107
- Stibbert Collection, Florence, 158
- Stings, as amputation cause, 29–30
- Stokes, W., 135
- Stone, Kenneth, 100
- Stumps, 143–154  
     above-knee, 135–136  
     below-knee, 60, 73  
         healing of, 146  
         overlong, 147  
     classification of, 149  
     complications of  
         early, 147  
         late, 147–151  
         revision of, 147–151  
     dressings for, 52  
     of finger and hand amputations, 137  
     forearm, 138–139  
     of guillotine amputations, 46  
     healing of  
         of accidental amputations, 96  
         primary and secondary patterns of, 148  
         during 17th century, 62  
     hygienic treatment for, 153  
     lengthening of, 151  
     management of  
         during 16th century, 129  
         during 17th century, 57, 64  
         early history of, 57  
         in guillotine amputations, 145–146  
         with hot liquids, 48  
         in knee disarticulation, 134–135  
         in legal amputations, 57  
         during Middle Ages, 58  
         in ritual amputations, 57  
         surgical, 145–147  
         in tibial (below-knee) amputations, 134  
         painful, 6, 148–149, 150–151  
         preparation for prostheses, 151–153  
         reamputation of, 102–103  
         scars on, 147, 149  
         short-term pathology of, 151  
         “sugar-loaf” deformity of, 71–72, 147, 151  
         upper limb, 137, 139, 148
- Stypticks, 51, 64
- Subtalar disarticulation, 131
- Supracondylar (low femoral) amputation, 134–135
- Surgeons  
     attitudes toward amputation, 105–107  
     hand infections and amputations in, 29, 100  
     ship’s, 62, 63  
     *Surgeon’s Mate*, 1617 (Woodall), 62, 120  
     *Surgeon’s Mate*, 1639 (Woodall), 1, 2, 62
- Sushruta Samhita, 58
- Suturing techniques, for stump closure, 146–147
- Swaine, Thomas, 157
- Swann M., 41
- Swords, as amputation instrument, 119
- Syme, James, 8, 48, 75, 78, 125, 126, 127, 130–131, 132, 134  
     on alternatives to amputation, 78, 125, 126  
     ankle disarticulation procedure, 75, 132, 162, 165–166
- System of Surgery*, A (Holmes and Hulke), 7–8
- T**
- Tachytomie, 46, 119
- Taj Mahal, 40
- Taliban, 39, 97
- Tar, as stump dressing, 48
- Tarsometatarsal disarticulation, 130
- Teale, T. P., 133, 134
- Tenaculum, 70–71
- Teneriffe, Battle of, 84

- Terrillon, M., 51, 89  
 Tetanus, 126, 148  
 Textor's subtalar disarticulation procedure, 131  
 Thalidomide, 14  
 Theodoric, 58, 83, 84, 88  
 Thermocautery, 113  
 Thomas, A., 100, 139, 140, 150, 152, 158, 163, 164, 169  
 Thomas, Hugh Owen, 93  
 Thomson, J., 47, 52–53, 76  
 Thumb amputations, 137–138  
   punitive amputations, 38  
   ritual amputations, 35, 36–37  
 Thwaites, Edward, 101  
 Tibia, chronic abscesses of, 79–80  
 Tibial (below-knee) amputations.  
   *See* Lower limb procedures  
 Tibiotalar amputation, 132  
 Timing, of amputation, 128  
   for gunshot trauma, 77  
   implication for pain control, 86  
 Tipu Sultan, 39  
 Toe amputations, 129–130  
   societal attitudes toward, 100  
   19th century, 74  
   traumatic amputations, 24  
 Tourniquets, 57  
   2nd-century A. D., 57  
   18th-century, 69, 70  
   as gangrene cause, 41–42, 111  
   for gunshot wounds, 64  
   improvised, 111  
   misapplied, 40, 42  
   Morel's, 8  
   for pain control, 85, 110, 111  
   Petit's screw-type, 6, 7, 8, 51, 69, 70, 107, 111  
   for venomous bites, 30  
 Toxins, as amputation cause, 57, 143, 144  
 Traction, use in stump management, 145–146  
 Trafalgar, Battle of, 87  
 Train wheels, as traumatic amputation cause, 23, 24, 25, 26  
 Transfixion technique, 73, 74, 75, 87, 118, 135  
 Transtalar amputation, 131  
*Treatise of Gangrena and Sphacelos* . . . (Woodall)  
*Treatise on Amputations of the Extremities and their Complications* (Watson), 5–6  
*Treatise on the Process Employed by Nature in Suppressing Haemorrhage from Divided and Punctured Arteries: and on the Use of the Ligature* (Jones), 70  
 Trench feet, 16  
 Trench warfare, 16, 91  
 Trepanation, 83  
 Treves, F., 110  
 Tripier, L., 90  
 Triple incision technique, 72–73, 75  
 Tropical populations, nutritional deficiencies in, 20, 127  
 Tuberculosis, 39, 42, 75, 78, 91, 93, 101, 103, 130, 132  
 Tumor albus, 93  
 Tumours, 20–21, 74, 102, 127, 140  
 Turpentine, as wound or stump dressing, 8, 48, 64, 91  
 Twain, Mark, 105  
 Tyrrell, F., 121
- U  
 Ulcers  
   chronic leg, 127  
   of stumps, 150  
   surgically-induced, 42  
 United States Army Reconditioning Program, 169  
 University College Hospital, London, 79  
 Upper limb procedures, 137–140  
   arm amputations  
     during Crimean War, 91  
     gunshot trauma-related, 59, 91  
     at the shoulder, 30  
     traumatic amputations, 26, 30  
     of upper arm, 139  
   finger and hand amputations, 137–138  
   forearm amputations, 138–139  
   pain control during, 85  
   wrist disarticulation and excision, 127, 138–139  
 Usmah, 43
- V  
 Vascular failure  
   as indication for amputation, 126–127  
   as natural amputation cause, 14–15  
 Velpeau, Alfred, 7, 86, 125–126, 133, 134, 136, 139, 140, 147–148  
   on hypnosis, 86  
   *Nouveaux Eléments de Médecine Opératoire*, 7  
 Venesection, 42, 57, 127, 137, 148  
 Venom, as amputation cause, 57  
 Verduin, Pierre, 2, 3, 64–65, 73, 117, 164  
   *Nouvelle Méthode pour Amputer les Membres*, 2, 3, 64, 65  
 Vietnam War, 92  
 Vigo, G., 48, 59  
 Vitali, Miroslaw, 6, 125, 134, 135, 136, 137, 138–139, 140, 151, 153, 164–165  
 Von Bergmann, E., 90  
 Von Berlichingen, Goetz, 158  
 Von Gersdorff, H. *See* Gersdorff, H., 98
- W  
 Wagon wheels, as traumatic amputation cause, 25–26, 31  
 Waldie, John, 88  
 Walker, G. F., 41  
 Wangenstein, Owen H., 8, 56, 75, 77, 85  
 Wangenstein, Sarah D., 8, 56, 75, 77, 85  
 War of the Spanish Peninsula, 104  
 Waterford Disability Network, 104  
 Waterloo, Battle of, 6–7, 45, 47, 52–53, 74, 77, 79, 107, 122, 159  
 Watson, B. A., 5–6, 89, 107, 126, 133–134, 147  
 Watson-Jones, R., 35, 42, 143  
 Watt, J., 84  
 Webber's forceps, 114  
 Weedon, S. H., 92  
 Wells, Calvin, 23  
 Wells, T. Spencer, 88, 114, 115  
 Wet conditions exposure, as gangrene cause, 15–16  
 Wheeler, Private  
   Corporal/Sergeant, 29, 104, 106–107  
   “White swelling,” 93  
 Wilson, A. Bennet, 6, 155, 166  
 Wilson, Joe, 157

- Wiseman, R., 15, 41, 46–47, 50–51, 63, 64, 85, 86, 101, 103–104, 119, 122, 137, 146
- Wistar Institute, 4
- Wood, Samuel, 30, 89
- Woodall, J., 1, 24, 40, 62–63, 64, 96, 99, 110, 116–117, 119, 120, 137, 143, 156
- A Treatise of Gangrena and Sphacelos.*
- Wood tar, as wound dressing, 29, 77–78, 88
- Worcester, Battle of, 103–104
- World War I, 8, 15, 16, 18–19, 42, 91, 107
- amputation practices during, 129
- auto-amputations, 33, 56–57
- delayed amputations, 92, 128
- forearm amputations, 138
- gas gangrene-related amputations, 145–146
- immediate amputations, 104
- pain control for, 87
- amputation rate during, 92
- battlefield wound care during, 53
- delayed, 92
- Casualty Clearing Stations during, 92
- military amputees of
- forequarter resection in, 140
- mortality rate in, 92
- prosthetic limbs for, 104, 161, 163–164, 168
- rehabilitation of, 168
- stump complications in, 149
- number of amputations performed during, 92
- Petit's screw-type tourniquet use during, 69
- shell-fragment wounds during, 91–92
- World War II, 8, 42, 75, 91, 107
- advanced wound care during, 128
- amputation practices during
- delayed amputations, 128
- forearm amputations, 138
- amputation rate during, 92
- civilian casualties during, 92
- military amputees of
- prosthetic limbs for, 164, 165
- rehabilitation of, 169
- stump complications in, 150
- Syme's operation during, 75, 132
- Worsnop, T., 47–48
- Wound care
- evolution of, 8
- lower-limb, 9
- for military casualties, 92
- for tibial (below-knee) amputations, 133–134
- Wound infections, 42–43
- control of, 88–91
- Wrist, disarticulation at, 138–139
- Wrist excision, 127
- Wurtz, F., 59–60
- Y**
- “Yakuza”, 37
- Yonge, J., 24, 48, 64, 69, 73