Ewerbeck, Standardverfahren Orthopädie und Unfallchirurgie

Literatur

1 Grundlagen

1.1 Nahttechniken

Busch K, Gohritz A, Vogt P. Amputation und Replantation an der Hand. Orthopädie und Unfallchirurgie up2date 2008; 3: 115–132
Campisi C, Bellini C, Campisi C et al. Microsurgery for Lymphedema: clinical Research and long-term Results. Microsurgery 2010; 30: 256–260
Chang DW. Lymphaticovenular Bypass for Lymphedema Management in Breast Cancer Patients: a prospective Study. Plast Reconstr Surg 2010; 126: 752–758
Chen ZW, Meyer VE, Kleinert HE et al. Present Indications and Contraindications for Replantation as reflected by long-term functional Results. Orthop Clin North Am 1981; 12: 849–870
Flynn JE. Compound Wounds of the Hand. Ann Surg 1952; 135: 500–507
Fujitsu M. Pulp Flap Replantation of the amputated Fingertip. Plast Reconstr Surg 2011; 127: 77e–78e
Hirche C, Germann G. Makroreplantationen – eine interdisziplinäre Herausforderung. Orthopädie und Unfallchirurgie up2date 2010; 5: 57–72
Hirche C, Engel H, Kolios L et al. Notfallmäßige Versorgung von Defektwunden an der Hand – Eine Orientierungshilfe für den Dienstarzt. Chirurgische Allgemeine 2011; 12
Koshima I, Yamamoto T, Narushima M et al. Perforator Flaps and Supermicrosurgery. Clin Plast Surg 2010; 37: 683–iii
Mitsunaga N, Mihara M, Koshima I et al. Digital Artery Perforator (DAP) Flaps: Modifications for Fingertip and Finger Stump Reconstruction. J Plast Reconstr Aesthet Surg 2010; 63: 1312–1317
Richter M. Fingerkuppendefekte – Ersetzt der Semiokklusivverband die Lappenplastiken? Obere Extremität 2010/11. Ref Type Abstract 2010

1.2 Thromboembolieprophylaxe

S3 – Leitlinie: Prophylaxe der venösen Thromboembolie (VTE). Vasa Suplement S/76 Volume 38 Mai 2009. www.awmf.org/leitlinien/detail/003-001.html

1.3 Punktions- und Injektionstechnik

1.3.1 Gelenkpunktionen und -injektionen

Keine Literaturangaben nötig.

1.3.2 Asservierung und Untersuchung des Punktats

Arbeitskreis „Krankenhaus- & Praxishygiene“ der AWMF, Deutsche Gesellschaft für Orthopädie und Orthopädische Chirurgie e. V. (DGOOC). Hygienemaßnahmen bei Intraartikulären Punktionen und Injektionen. http://www.awmf.org/leitlinien/detail/ll/029-006.html
Bellamy N, Campbell J, Robinson V et al. Intraarticular Corticosteroid for Treatment of Osteoarthritis of the Knee. Cochrane Database Syst Rev 2006; 2: CD005328
Reichenbach S, Sterchi R, Scherer M et al. Meta-analysis: Chondroitin for Osteoarthritis of the Knee or Hip. Ann Intern Med 2007; 146(8): 580–590
Rutjes AW, Jüni P, da Costa BR et al. Viscosupplementation for Osteoarthritis of the Knee: a systematic Review and Meta-analysis. Ann Intern Med 2012; 157(3): 180–191

1.3.3 Injektionstechnik an der Wirbelsäule

Buchner M, Zeifang F, Brocai DR et al. Epidural Corticosteroid Injection in the conservative Management of Sciatica. Clin Orthop Relat Res 2000; 375: 149–156
Bush K, Cowan N, Katz DE et al. The natural History of Sciatica associated with Disc Pathology. A prospective Study with clinical and independent radiologic Follow-up. Spine 1992; 17: 1205–1212
Chou R, Atlas SJ, Stanos SP et al. Spine (Phila Pa 1976) 2009; 34(10): 1078–1093
Chou R, Loeser JD, Owens DK et al. American Pain Society Low Back Pain Guideline Panel. Interventional Therapies, Surgery, and interdisciplinary Rehabilitation for Low Back Pain: an evidence-based clinical practice Guideline from the American Pain Society. Spine (Phila Pa 1976) 2009; 34(10): 1066–1077
Iversen T, Solberg TK, Romner B et al. Effect of Caudal Epidural Steroid or Saline Injection in chronic Lumbar Radiculopathy: multicentre, blinded, randomised controlled Trial. BMJ 2011; 343: d5278
Krämer J, Nentwig CG. Orthopädische Schmerztherapie. Stuttgart: Enke; 1999

1.4 Thoraxdrainage

Buchinger W, Matuschka M. Technik und Komplikation der Thoraxdrainage. H Unfallheilk 1992; 223: 135–144
Gambazzi F, Schirren J. Thoraxdrainagen. Chirurg 2003; 74: 99–107
Glinz W. Pleuro-pulmonale Verletzungen. Chirurg 1985; 56: 136–146
Klopp M et al. Die Thoraxdrainage. Dtsch Med Wochenschr 2009; 134: 536–539
Vock B. Das Thoraxtrauma in der Prähospitalphase. Akt Traumatol 1989; 19: 17–21

1.5 Extensionsbehandlung

Bischoff HP, Heisel J, Locher H. Praxis der konservativen Orthopädie. Stuttgart: Thieme; 2007
Jahn H, Wittich H. Konservative Methoden in der Frakturbehandlung. Wien: Urban & Schwarzenberg; 1985
Kirschnick O. Pflegetechniken von A–Z. Stuttgart: Thieme; 2010
Paetz B, Benzinger-König B. Chirurgie für Pflegeberufe. Stuttgart: Thieme; 2004

1.6 Spongiosagewinnung

Betz A, Eitel F, Nast-Kolb D, Schweiberer L. Knochentransplantation. In: Breitner B. Chirurgische Operationslehre, Band VIII. München: Urban & Schwarzenberg; 1987: 124–126
Schauwecker F. Osteosynthesepraxis. Thieme: Stuttgart; 1981: 11–16

1.7 Entfernung von Osteosynthesematerial

Müller ME, Allgöwer M, Schneider R, Willenegger H. Manual der Osteosynthese. 3. Aufl. Berlin: Springer; 1992

1.8 Frakturklassifikation

1.8.1 Frakturen im Erwachsenenalter

Müller ME, Nazarian S, Koch P, Schatzker I. The comprehensive Classification of Fracture of Long Bone. Berlin: Springer; 1990
Tile M. Becken. In: Müller ME, Allgöwer M, Schneider R, Willenegger H. Manual der Osteosynthese. 3. Aufl. Berlin: Springer; 1992

1.8.2 Frakturen im Kindesalter

von Laer L. Frakturen und Luxationen im Wachstumsalter. 2. Aufl. Stuttgart: Thieme; 1991

1.9 Klassifikationen und Scores in Orthopädie und Unfallchirurgie

Keine Literaturangaben nötig.

2 Schulter

2.1 Akromioklavikulargelenksprengung, laterale Klavikulafrakturen

Blessing A, Grützner PA, Studier-Fischer S. Tight-Rope – Minimalinvasive Möglichkeit der Akromioklavikulargelenkstabilisierung. Trauma und Berufskrankheit 2011; 13: 264–265
Der Tavitian J, Davison J, Dias J. Clavicular Fracture non-union surgical Outcome and Complications. Int J Care Injured 2002; 33: 135–143
Erhardt M, Studier-Fischer S, Gühring T et al. Die gespannte superiore winkelstabile Plattenosteosynthese mit und ohne Spongiosaplastik/Beckenkammblockinterposition bei Claviculapseudarthrosen – 58 Fälle. Vortrag Deutscher Kongress für Orthopädie und Unfallchirurgie Berlin, 26.-29. Oktober 2010
Fremerey RW, Lobenhoffer P, Ramacker K et al. Akute AC-Gelenksprengung – operative oder konservative Therapie? Unfallchirurg 2001; 104: 294–299
Hedtmann A, Fett H. Erkrankungen und Verletzungen des Acromio- und Sternoclaviculargelenkes. In: Habermeyer P. Schulterchirurgie. München: Urban & Fischer; 2002: 293–331
Höntzsch D, Maurer H. Schultergürtel. In: Kremer K, Lierse W, Platzer W. Conservative Treatment of Acromioclavicular Dislocation – Evaluation of functional and radiological Results after six Year Follow-up. Acta Orthopaedica Belgica 1995; Vol. 59; 3: 255–262
McKee M et al. Nonoperative Treatment compared with Plate Fixation of displaced Midshaft Clavicular Fractures. A multicenter, randomized clinical Trial by the Canadian Trauma Society. JBJS.ORG 2007; Vol. 89-A; Number 1: 1–10
Rockwood CA, Willia GR, Young DC. Disorders of the Acromioclavicular Joint. In: Rockwood CA, Matsen FA. The Shoulder. Philadelphia: Saunders; 1998: 483–543
Walz L, Salzmann GM, Fabbro T et. al. The anatomic Reconstruction of Acromioclavicular Joint Dislocations using 2 Tightrope Devices. Am J Sports Med 2008; 36(12): 2398–2406

2.2 Akromioklavikulargelenkarthrose

Flatow EL, Duralde XA, Nicholson GP et al. Arthroscopic Resection of the distal Clavicle with a superior Approach. J Shoulder Elbow Surg 1995; 4: 41–50
Hedtmann A, Fett H, Ludwig J. Die Behandlung veralteter posttraumatischer Akromioklavikulargelenkinstabilitäten und -arthrosen. Orthopäde 1998; 27: 556–566
Mumford EB. Acromioclavicular Dislocation: A new operative Treatment. J Bone Joint Surg 1941; 23: 799–802
Weaver JK, Dunn HK. Treatment of Acromioclavicular Injuries, especially complete Acromioclavicular Separations. J Bone Joint Surg 1972; 54: 1187–1194

2.3 Subakromiale Enge

Hawkins RJ, Plancher KD, Saddemi SR et al. Arthroscopic Subacromial Decompression. J Shoulder Elbow Surg 2001; 10(3): 225–230
Lunsjö K, Bengtsson M, Nordqvist A et al. Patients with Shoulder Impingement remain satisfied 6 Years after Arthroscopic Subacromial Decompression: a prospective Study of 46 Patients. Acta Orthop 2011; 82(6): 711–713, DOI: 10.3109/17453674.2011.623571
Magaji SA, Singh HP, Pandey RK. Arthroscopic Subacromial Decompression is effective in selected Patients with Shoulder Impingement Syndrome. J Bone Joint Surg Br 2012; 94(8): 1086–1089, DOI: 10.1302/0301-620X.94B8.29001

2.4 Rotatorenmanschettenruptur

2.4.1 Transfer des M. latissimus dorsi

Boileau P, Rumian AP, Zumstein MA. Reversed Shoulder Arthroplasty with modified L'Episcopo for combined Loss of active Elevation and external Rotation. J Shoulder Elbow Surg 2010; 19(2 Suppl): 20–30, DOI: 10.1016/j.jse.2009.12.011

Gerhardt C, Lehmann L, Lichtenberg S et al. Modified L'Episcopo Tendon Transfers for irreparable Rotator Cuff Tears: 5-year Follow-up. Clin Orthop Relat Res 2010; 468(6): 1572–1577, DOI: 10.1007/s11999-009-1030-4
Longo UG, Franceschetti E, Petrillo S et al. Latissimus dorsi Tendon Transfer for massive irreparable Rotator Cuff Tears: a systematic Review. Sports Med Arthrosc 2011; 9(4): 428–437, DOI: 10.1097/JSA.0b013e3182390639, Review
Lichtenberg S, Magosch P, Habermeyer P. Are there Advantages of the combined latissimus-dorsi Transfer according to L'Episcopo compared to the isolated latissimus-dorsi Transfer according to Herzberg after a mean Follow-up of 6 Years? A matched-pair Analysis. J Shoulder Elbow Surg 2012; 21(11): 1499–1507, DOI: 10.1016/j.jse.2012.01.002
Nové-Josserand L, Costa P, Liotard JP et al. Results of latissimus dorsi Tendon Transfer for irreparable Cuff Tears. Orthop Traumatol Surg Res 2009; 95(2): 108–113, DOI: 10.1016/j.otsr.2008.10.002
Tauber M, Moursy M, Forstner R et al. Latissimus dorsi Tendon Transfer for irreparable Rotator Cuff Tears: a modified Technique to improve Tendon Transfer Integrity: surgical Technique. J Bone Joint Surg Am 2010; 92 (Suppl 1 Pt 2): 226–239, DOI: 10.2106/JBJS.J.00224

2.4.2 Transfer des M. pectoralis major

Elhassan B, Ozbaydar M, Massimini D et al. Transfer of Pectoralis major for the Treatment of irreparable Tears of Subscapularis: does it work? J Bone Joint Surg Br 2008; 90(8): 1059–1065, DOI: 10.1302/0301-620X.90B8.20659
Galatz LM, Connor PM, Calfee RP et al. Pectoralis major Transfer for anterior-superior Subluxation in massive Rotator Cuff Insufficiency. J Shoulder Elbow Surg 2003; 12(1): 1–5
Gavriilidis I, Kircher J, Magosch P et al. Pectoralis major Transfer for the Treatment of irreparable anterosuperior Rotator Cuff Tears. Int Orthop 2010; 34(5): 689–694, DOI: 10.1007/s00264-009-0799-9
Jost B, Puskas GJ, Lustenberger A et al. Outcome of Pectoralis major Transfer for the Treatment of irreparable Subscapularis Tears. J Bone Joint Surg Am 2003; 85-A(10): 1944–1951
Konrad GG, Sudkamp NP, Kreuz PC et al. Pectoralis major Tendon Transfers above or underneath the Conjoint Tendon in subscapularis-deficient Shoulders. An in vitro biomechanical Analysis. J Bone Joint Surg Am 2007; 89(11): 2477–2484
Resch H, Povacz P, Ritter E et al. Transfer of the Pectoralis major Muscle for the Treatment of irreparable Rupture of the Subscapularis Tendon. J Bone Joint Surg Am 2000; 82(3): 372–382

2.4.3 Sehnennaht

Bell S, Lim YJ, Coghlan J. Long-term longitudinal Follow-up of mini-open Rotator Cuff Repair. J Bone Joint Surg Am 2013; 95(2): 151–157, DOI: 10.2106/JBJS.K.00499
Gerber C, Schneeberger AG, Beck M et al. Mechanical Strenghts of Repairs of the Rotator Cuff. J Bone Joint Surg (B) 1994; 76: 371–380
Kim KC, Shin HD, Cha SM et al. Comparison of Repair Integrity and functional Outcomes for 3 Arthroscopic Suture Bridge Rotator Cuff Repair Techniques. Am J Sports Med 2013; 41(2): 271–277, DOI: 10.1177/0363546512468278
Lafosse L, Brzoska R, Toussaint B et al. The Outcome and structural Integrity of Arthroscopic Rotator Cuff Repair with Use of the double-row Suture Anchor Technique. Surgical Technique. J Bone Joint Surg Am 2008; 90 (Suppl 2 Pt 2): 275–286, DOI: 10.2106/JBJS.H.00388
Pollock RG, Flatow EL. Full-thickness Tears: mini-open Repair. Orthop Clin North Am 1997; 28: 169–178
Saridakis P, Jones G. Outcomes of single-row and double-row Arthroscopic Rotator Cuff Repair: a systematic Review. J Bone Joint Surg Am 2010; 92(3): 732–742, DOI: 10.2106/JBJS.I.01295
Voos JE, Barnthouse CD, Scott AR. Arthroscopic Rotator Cuff Repair: Techniques in 2012. Clin Sports Med 2012; 31(4): 633–644, DOI: 10.1016/j.csm.2012.07.002

2.5 Proximale Oberarmfraktur

Blum J, Hansen M, Rommens P. Die winkelstabile Marknagelung bei Frakturen am proximalen Humerus mit dem PHN (proximaler Humerusnagel). Oper Orthop Traumatol 2009; 21: 296–311

Brunner U. Die proximale Humerusfraktur – Winkelstabile Plattenosteosynthese. Obere Extremität 2012; 7: 122–127
Franke S, Ambacher T. Die proximale Humerusfraktur – Konservativ vs. Operativ: wann und wie? Obere Extremität 2012; 7: 137–143
Hertel R, Hempfing A, Stiehler M et al. Predictors of humeral Head Ischemia after intracapsular Fracture of the proximal Humerus. J Shoulder Elbow Surg 2004; 13(4): 427–433
Jaeger M, Izadapanah K, Maier D et al. Fraktur des Humeruskopfes – Zertifizierte Fortbildung. Chirurg 2012; 83: 285–296
Lill H, Josten C. Konservative oder operative Versorgung der Humeruskopffraktur beim alten Menschen? Chirurg 2001; 72: 1224–1234
Lill H, Ellwein A, Katthagen C et al. Osteoporotische Frakturen am proximalen Humerus. Chirurg 2012; 83: 858–865
Resch H. Die Humeruskopffraktur. Unfallchirurg 2003; 106: 602–617
Robinson CM, Amin AK, Godley CK et al. Modern Perspectives of open Reduction and Plate Fixation of proximal Humerus Fractures J Orthop Trauma 2011; 25: 618–629
Schmittenbecher P, Blum J, David S et al. Die Behandlung von Humerusschaftfrakturen und subcapitalen Humerusfrakturen im Kindesalter. Unfallchirurg 2004; 107: 8–14
Schoepp C, Oswald D, Schofer M et al. Standardverfahren zur Behandlung proximaler Humerusfrakturen. Trauma Berufskrankh 2008; 10: 59–65
Stangl R, Hennig F. Schultergelenknahe Oberarmfrakturen einschließlich Endoprothetik. Trauma und Berufskrankh 2000; 2: 180–185

2.6 Schulterinstabilität

2.6.1 Limbusrekonstruktion nach Bankart

Bankart A. The Pathology and Treatment of recurrent Dislocation of the Shoulder Joint. Br J Surg 1938; 26: 23–29
Matsen FA, Thomas SC, Rockwood CA. Glenohumeral Instability. In: Rockwood CA, Matsen FA, eds. The Shoulder. Vol. 2. Philadelphia: Saunders; 1998: 611–754
Resch H, Wanitschek P, Sperner G. Die Operation nach Bankart. Hefte zur Unfallheilkunde 1988; 195: 205–210

2.6.2 Arthroskopische Stabilisierungsverfahren

Bunker T, Wallace A. Arthroskopisches Vorgehen bei der traumatischen Schulterluxation. In: Bunker T, Wallace A (Hrsg.). Schulterarthroskopie. Stuttgart: Thieme; 1992: 141–156
Jäger A, Kandziora F, Bischof F et al. Arthroscopic labral Reconstruction for anterior Shoulder Instability. Failure Analysis in 187 Patients. Z Orthop 1999; 137(1): 17–24
Morgan C, Bodenstab A. Arthroscopic Bankart Suture Repair. Technique and early Results. Arthroscopy 1987; 3: 111–122
Resch H, Sperner G, Golser K et al. Die arthroskopische extraartikuläre Limbusverschraubung bei unidirektionaler Schulterinstabilität. Arthroskopie 1992; 5: 79–86
Thöni H, Resch H, Sperner G. Diagnostische Arthroskopie. In: Resch H, Beck E, Hrsg. Arthroskopie der Schulter, Diagnostik und Therapie. Wien: Springer; 1991: 43–65

2.6.3 Inferiorer Kapselshift

Altchek DW, Warren RF, Skyhar M et al. T-plasty Modification of the Bankart Procedure for multidirectional Instability of the anterior and inferior Types. J Bone Joint Surg 1991; 73 A: 105–112
Neer C, Foster C. Inferior capsular Shift for involuntary inferior and multidirectional Instability of the Shoulder. J Bone Joint Surg 1980; 62 A: 897–908
Wirth MA, Blatter G, Rockwood CA. The capsular Imbrication Procedure for recurrent anterior Instability of the Shoulder. J Bone Joint Surg 1996; 73 A: 246–259

2.6.4 Knöcherne Pfannenrandplastik

Krüger P. Modifizierte Knochenblockoperation vom Typ Eden-Hybinette. Hefte zur Unfallheilkunde 1988; 195: 193–199
Matthews LS, Pavlovich LJ. Anterior and anteroinferior Instability: Diagnosis and Management. In: Ianotti GP, Williams RG, eds. Disorders of the Shoulder. Philadelphia: Lippincott; 1999: 251–294
Young DC, Rockwood CA. Complications of a failed Bristow Procedure and their Management. J Bone Joint Surg 1991; 73 A: 969–981

2.6.5 Dorsale Stabilisierung

Neer CS. Shoulder Reconstruction. Philadelphia: Saunders; 1990: 309–316
Pollock RG, Bigliani LU. Recurrent posterior Shoulder Instability: Diagnosis and Treatment. Clin Orthop 1993; 291: 85–97
Ramsey ML, Klimkiewicz JJ. Posterior Instability: Diagnosis and Management. In: Ianotti GP, Williams RG, eds. Disorders of the Shoulder. Philadelphia: Lippincott; 1999: 295–319
Scott D. Treatment of recurrent posterior Dislocation of the Shoulder by Glenoplasty. J Bone Joint Surg 1967; 41 A: 471–476

2.6.6 Rotationsosteotomie

Fischer M, Hardegger R, Mulder H. Subcapitale Humerusrotationsosteotomie nach Weber bei vorderer habitueller Schulterluxation. H Unfallheilk 1988; 195: 199–204
Weber B, Simpson L, Hardegger F. Rotational humeral Osteotomy for recurrent anterior Dislocation of the Shoulder associated with a large Hill-Sachs-Lesion. J Bone Joint Surg 1984; 66 A: 1443–1449

2.7 Omarthrose

2.7.1 Schulterendoprothetik

Kechele P, Basamania C, Wirth M et al. Rheumatoid Shoulder: Hemi-Arthroplasty vs. total Shoulder Arthroplasty. J Shoulder Elbow Surg 1995; 4/1: 13
Loew M, Simank HG, Rickert M. Hemi- oder Totalprothetik des Schultergelenkes – eine indikationsabhängige Entscheidung? Z Orthop 2000; 138: 30
Lynch NM, Coefield RH, Silbert PL et al. Neurologic Complications after total Shoulder Arthroplasty. J Shoulder Elbow Surg 1996; 5: 53–61
Rockwood CA, Matsen FA, eds. The Shoulder. Vol. 2. Philadelphia: Saunders; 1998: 840–964
Torchia M, Coefield R, Settergren C. Total Shoulder Arthroplasty with the Neer Prothesis: Long term Results. J Shoulder Elbow Surg 1997; 6: 495–505
Walch G, Boileau P. Shoulder Arthroplasty. Berlin: Springer; 1999

2.7.2 Humeraler Gelenkflächenersatz mittel metaphysär verankernder oder (CUP-Prothese)

Keine Literaturangaben nötig.

2.7.3 Schultergelenkarthrodese

Böhler J. Arthrodese des Schultergelenkes – Indikation und Technik. Hefte zur Unfallheilkunde 1989; 206: 206–210
Hawkins R, Neer C. A functional Analysis of Shoulder Fusions. Clin Orthop 1987; 223: 65–73
Matsen FA, Rockwood CA, Wirth MA et al. In: Rockwood CA, Matsen FA, eds. The Shoulder. Vol. 2. Philadelphia: Saunders; 1998: 840–964
Pfeil J, Martini A. Indikationen und Ergebnisse der Schulterarthrodese und begleitender myoplastischer Eingriffe. Z Orthop 1985; 123: 872–875
Richards R, Beaton D, Hudson A. Shoulder Arthrodesis with Plate Fixation: Functional Outcome Analysis. J Shoulder Elbow Surg 1993; 2: 225–239

3 Oberarm und Ellenbogen

3.1 Humerusschaftfrakturen

Blum J, Rommens PM, Janzing H et al. Retrograde Nailing of Humerus Shaft Fractures with the unreamed Humerus Nail. An international Multicenter Study. Unfallchirurgie 1998; 101: 342–352
Blum J, Hansen M, Sternstein W et al. Humeral Nailing: a biomechanical Comparison of Stryker T2 and Synthes UHN. Osteo Trauma Care 2006; 14: 34–38
Ingman AM, Waters DA. Locked intramedullary Nailing of Humerus Shaft Fractures. Implant Design, surgical Technique, and clinical Results. J Bone Joint Surg (Br) 1994; 76(1): 23–29
Murphy WM. AO-Prinzipien des Frakturmanagements. Stuttgart: Thieme; 2000: 295–309
Riemer B. Intramedullary Nailing of the Humerus. In: Brower B, ed. The Science and Practice of intramedullary Nailing. Philadelphia: Williams & Wilkins; 1996: 241–263

Rommens PM, Endrizzi DE, Blum J et al. Humerus: Schaft. In: Rüedi TP, Murphy WM. AO-Prinzipien des Frakturmanagements. Stuttgart: Thieme; 2003: 295–309
Sarmiento A, Kinman PB, Galvin EG et al. Functional Bracing of Fractures of the Shaft of the Humerus. J Bone Joint Surg (Am) 1977; 59(5): 596–601
Studier-Fischer S, Moghaddam A, Wagner C et al. Marknagelung bei der Humerusschaftfraktur. Trauma und Berufskrankh 2005; 7: 97–102
Wentzensen A, Magin M. Die Plattenosteosynthese im Schaftbereich des Oberarms. Operat Orthop Traumatol 1991; 3: 49–58

3.2 Per- und suprakondyläre Frakturen beim Erwachsenen

Dietz S-O, Nowak TE, Burkhart KJ et al. Distale Humerusfraktur beim älteren Menschen. Unfallchirurg 2011; 9: 801–815
Gausepohl T. Osteosynthesis in distal intra-articular humeral Fractures. External Fixation with Motion Capacity. Unfallchirurg 2011; 114: 130–135
Jupiter JB, Neff U, Holzach P et al. Intercondylar Fractures of the Humerus. An operative Approach. J Bone Joint Surg Am 1985; 67(2): 226–239
Jupiter JB. Complex Fractures of the distal Part of the Humerus and associated Complications. J Bone Joint Surg Am 1994; 76: 1252–1263
Kaiser T, Brunner A, Hohendorff B et al. Treatment of supra- and intraarticular Fractures of the distal Humerus with the LCP Distal Humerus Plate : a 2-year Follow-up. J Shoulder Elbow Surg 2011; 20: 206–212
Kinzl L, Fleischmann W. Die Behandlung der distalen Oberarmfrakturen. Unfallchirurg 1991; 94: 455–460
Kundel K, Braun W, Rüter A. Distale intraartikuläre Humerusfrakturen bei Erwachsenen – Ergebnisse der operativen Behandlung. Unfallchirurg 1992; 95: 219–223
Moghaddam A, Dremel E, Güven F et al. Ellenbogengelenkarthrodese. Indikationen, Operationsverfahren und klinische Ergebnisse. Unfallchirurg 2010; 113: 300–307
Müller LP, Kaminej S, Rommens PM et al. Primäre Ellenbogenprothese zur Versorgung distaler Humerusfrakturen. Operat Orthop Traumatol 2005; 2: 119–142
Obredemskey WT, Bhandari M, Dirschl DR et al. Internal Fixation versus Arthroplasty of comminuted Fractures of the distal Humerus. J Orthop Trauma 2003; 17: 463–465

3.3 Per- und suprakondyläre Frakturen beim Kind

De Buys Roessingh AS, Reinberg O. Open or closed Pinning for distal Humerus Fractures in Children. Swiss Surg 2003; 9: 76–81
Farsetti P, Potenza V, Carerini R et al. Long term Results of Treatment of Fractures of the medial humeral Epicondyle in Children. J Bone Joint Surg Am 2001; 83-A: 1299–1305
Fernandez F, Eberhardt O. Supracondyläre Humerusfrakturen bei Kindern. Trauma Berufsktankh 2012, 14 [Supl 3]:379-384
Franke C, Reilmann H, Weinreich M. Langzeitergebnisse der Behandlung von supracondylären Humerusfrakturen bei Kindern. Unfallchirurg 1992; 95: 401–404
Frongia G, Günther P, Romero P et al. Ellenbogenluxationen im Kindesalter. Unfallchirurg 2010: 1–7
Heinrichs G, Schultz AP, Kaiser MM. Distaler Oberarm. In: Müller-Mai CM, Ekkernkamp A, Hrsg. Frakturen – Klassifikation und Behandlungsoptionen. Berlin: Springer; 2010: 41–55
Royce RO, Dutkowsky JP, Kasser JR et al. Neurological Complications after K-wire Fixation of supracondylar Humerus Fractures in Children. J Pediatr Orthop 1991; 11: 191–194
Studier-Fischer S, Frank C, Wagner C et al. Korrekturosteotomie am Humerus. Trauma und Berufskrankh 2008; 10: 29–35
von Laer L. Das verletzte Kind. Stuttgart: Thieme; 2007: 49-59
von Laer L. Frakturen und Luxationen im Wachstumsalter. 3. Aufl. Stuttgart: Thieme; 1996
Zimmermann T, Schnecker K, Keim C et al. Die offene Reposition bei der distalen Humerusfraktur im Kindesalter. Chir Praxis 1992; 45: 475–481

3.4 Olekranonfraktur

Eitel F, Schweiberer L. Olecranonfrakturen. Retrospektive, multizentrische Therapiestudie an 175 Fällen. Unfallheilk 1983; 86: 143–151
Hölzl A, Verheyden AP. Isolierte Olekranonfrakturen. Unfallchirurg 2008; 111(9): 727-734

Hume MC, Wiss DA. Olecranon Fractures – a clinical and radiographic Comparison of Tension Band Wiring and Plate Fixation. Clin Orthop 1992; 285: 229–235
Lill H, Voigt C. Ellenbogenverletzungen. Chirurg 2004; 75: 1037–1061
Moghaddam A, Lennert A, Studier-Fischer S et al. Endoprothesenversorgung nach Radiusköpfchentrümmerfrakturen. Unfallchirurg 2008; 111: 997–1004
Quintero J. Olekranon-, Radiusköpfchen- und komplexe Ellenbogenverletzungen. In: Rüedi TP, Murphy WM. AO-Prinzipien des Frakturmanagements. Stuttgart: Thieme; 2003: 327–342
Schatzker J. Olecranon Fractures. In: Schatzker J, Tile M, eds. The Rationale of operative Fracture Care. Berlin: Springer; 1987: 80–87
Simpson NS, Goodman LA, Jupiter JB. Contoured LCDC Plating of the proximal Ulna. Injury 1996; 27(6): 411–417
Webb LX. Use of a Hook Plate Technique in the Management of proximal Ulna Fractures. Techniques in Orthopaedics 1991; 6(2): 45–50

3.5 Radiuskopffraktur

Firbas W, Weise K. Ellbogen. In: Kremer K, Lierse W, Platzer W et al. Chirurgische Operationslehre. Bd. 9 Schultergürtel, obere Extremität. Stuttgart: Thieme; 1995: 162–245
Frosch K-H, Knoop W, Dresing K et al. Die bipolare Radiuskopfprothese bei nicht rekonstruierbaren Radiusköpfchentrümmerfrakturen: Indikation, Behandlung und Ergebnisse nach 5 Jahren. Unfallchirurg 2003; 106: 367–373
King GJW, Evans D, Kellam JF. Open Reduction and internal Fixation of radial Head Fractures. J Orthop Trauma 1991; 5: 21–28
Marquaß B, Josten CH. Primäre Endoprothetik nach Trauma, mehr als eine Alternative? – Wann braucht man die Radiuskopfprothese? Trauma und Berufskrankheit 2010; 12: 18–23
Moghaddam A, Lennert A, Studier-Fischer S et al. Endoprothesenversorgung nach Radiusköpfchentrümmerfrakturen. Unfallchirurg 2008; 111: 997–1004
Moghaddam A, Studier-Fischer S, Zimmermann G et al. Vergleich der Resektion mit der Endoprothese nach Radiusköpfchentrümmerfrakturen. Vortrag zum 15. Jahreskongress der Deutschen Vereinigung für Schulter- und Ellenbogenchirurgie (DVSE) e.V., 30.-31. Mai 2008
Ring D, Kharrazi FD, Jupiter JB et al. Non-union Following ORIF of radial Head Fractures. Am Soc Hand 1998
Schmitt E, Heisel J, Wüst HL. Indikation und Ergebnisse der primären und sekundären Radiusköpfchenresektion. Unfallchirurg 1988; 91: 243–251

3.6 Luxationen und Frakturen am Ellenbogengelenk

Bauer R, Kerschbaumer F, Pisel S. Operative Zugangswege in Orthopädie und Traumatologie. 2. Aufl. Stuttgart: Thieme; 1990
Deml C, Arora R, Oberlastätter J et al. Funktionelle Therapie und ihre Grenzen bei akuten Ellenbogenluxationen. Unfallchirurg 2007; 110: 845–851
Gierer P, Beck M, Gradl G et al. Bandinstabilitäten am Ellenbogengelenk. Trauma Berufskrankh 2012; 14 (Supl.2): 203–207
Heck S, Gick S, Dargel J et al. Die Behandlung der akuten Luxation und Luxationsfraktur des Ellenbogens. Unfallchirurg 2011; 114: 114–122
Kiene J, Wäldchen J, Schulz A-P et al. Mittelfristige Behandlungsergebnisse von 19 Processus-coronoideus Frakturen und ihre Begleitverletzungen. Obere Extremität 2012; 3: 166–173
Kolb W, Guhlmann H, Windisch C et al. Komplexe osteoligamentäre Verletzungen des Ellenbogens. Unfallchirurg 2008; 111: 584–591
Mittlmeier T, Beck M. Luxationen des Ellenbogengelenks des Erwachsenen. Unfallchirurg 2009; 112: 487–505
Moghaddam-Alvandi A, Dremel E, Güven F et al. Ellenbogengelenkarthrodese – Indikation, Operationsverfahren und klinische Ergebnisse. Unfallchirurg 2010; 113: 300–307
Regel G, Bayef-Filloff M. Luxationen und Luxationsfrakturen des Ellenbogens. Trauma Berufskrankh 2010; 12 (Suppl2): 113–118
Unger AC, Renken F, Gille J et al. Klassifikation und Therapie von ellengelenknahen Verletzungen. Trauma Berufskrankh 2010

3.7 Ellenbogenkontraktur

Hertel R, Pisan M, Lambert S et al. Operative Management of the stiff Elbow: sequential Arthrolysis based on a transhumeral Approach. J Shoulder Elbow Surg1997; 6/2: 82–88
Mansat P, Morrey BF, Hotchkiss RN. Extrinsic Contracture: the „Column Procedure", lateral and medial capsular Releases. In: Morrey BF, ed. The Elbow and Fist Disorders. Philadelphia: Saunders; 2000: 447–456
Morrey BF. Anterior capsular Release for Flexion Contracture. In: Morrey BF, ed. The Elbow. New York: Raven Press; 1994: 291–305

3.8 Ellenbogenarthroskopie

O'Driscoll SW. Elbow Arthroscopy: loose Bodies. In: Morrey BF, ed. The Elbow and its Disorders. Philadelphia: Saunders; 2000: 510–514
Savoie FH, Field LD. Portals in Elbow Arthroscopy. In: Morrey BF, ed. The Elbow and its Disorders. Philadelphia: Saunders; 2000: 505–509
Strobel M. Arthroskopische Chirurgie. Berlin: Springer; 1998: 731–756

3.9 Distale Bizepssehnenruptur

Baker BE, Bierwagen D. Rupture of the distal Tendon of the Biceps brachii. J Bone Joint Surg 1985; 67 A: 414–417
Herren T, Zdravkovic V. Spätrekonstruktion der distalen Bicepssehne mit Fascia-Lata-Graft und Mitek-Ankern. Unfallchirurg 2004; 107: 236–238
Klonz A, Loitz D, Reilmann H. Proximale und distale Bizepssehnenruptur. Unfallchirurg 2003; 106: 755–763
Krüger-Franke M, Theermann R, Refior HJ. Ergebnisse der operativen Therapie der distalen Bizepssehnenruptur. Unfallchirurgie 1992; 18: 19–23
Lang E, Meeder PJ, Höntzsch D. Die distale Bizepssehnenruptur. Klinik – Therapie – Ergebnisse. Akt Traumatol 1988; 18: 209–214
Loitz D, Klonz A. Gedeckte Refixierung der distalen Bizepssehne. Unfallchirurg 2011; 114: 55–60
Sennerich T, Ahlers J, Gitter G et al. Diagnostik, Therapie und Ergebnisse nach Bizepssehnenrupturen. Unfallchirurg 1991; 94: 176–181

4 Unterarm und Hand

4.1 Unterarmschaftfraktur

Bernard M, Hertel P. Luxationsverletzungen von Ellenbogen und Unterarm. In: Breitner B. Chirurgische Operationslehre, Bd. X. 2. Aufl. München: Urban & Schwarzenberg; 1991
Bot AG, Doornberg JN, Lindenhovius AL et al. Long-term outcomes of fractures of both bones of the forearm. J Bone Joint Surg Am. 2011 Mar 16; 93 (6): 527-532. doi: 10.2106/JBJS.J.00581
Chapman MW, Gordon JE, Zissimos AG. Compression-plate Fixation of acute Fractures of the Diaphysis of the Radius and Ulna. J Bone Joint Surg Am 1989; 71A: 159–169
Heim U, Pfeiffer KM. Periphere Osteosynthesen unter Verwendung des Kleinfragmentinstrumentariums der AO. 4. Aufl. Berlin: Springer; 1991
Heim U, Zehnder R. Analyse von Mißerfolgen nach Osteosynthesen von Unterarmschaftfrakturen. H Unfallheilk 1991; 201: 243
Hertel R, Pisan M, Lambert S et al. Plate Osteosynthesis of diaphyseal Fractures of the Radius and Ulna. Injury 1996; 27: 545–548
Keller HW, Huber R, Rehm KE. Die intramedulläre Schienung von Frakturen im Wachstumsalter mit einem neuen Implantat. Chirurg 1993; 64: 180–184
Josten C. Verfahrenswechsel bei offener distaler Unterarmfraktur. H Unfallheilk 1989; 201: 116
Prevot J, Metaizeau J-P, Lascombes P. Stabiles elastisches intramedulläres Pinning: Ein neues Konzept der Behandlung der Schaftfraktur beim Kind. Hefte Unfallchirurg 1993; 230: 955–961
van Duijvenbode DC, Guitton TG, Raaymakers EL et al. Long-term outcomes of isolated diapyseal radius fractures with and without dislocation of the distal radioulnar joint. J Hand Surg Am. 2012 Mar; 37(3): 523-527. doi: 10.1016/j.jnsa.2011.11.008

Weckbach A, Blattert TR. Die Unterarmschaftfraktur des Erwachsenen. Unfallchirurg 2002; 73: 627-641. DOI 10.1007/s00113-002-0464-x
Yung SH, Lam CY, Choi KY et al. Percutaneous intramedullary Kirschner Wiring for displaced diaphyseal Forearm Fractures in Children. J Bone Joint Surg Br 1998; 80: 91–94

4.2 Distale Radiusfraktur

Boszotta H, Helperstorfer E, Sauer G. Zur Operationsindikation bei der distalen Radiusfraktur. Unfallchirurg 1991; 94: 417–427
Jenkins NH. The unstable Colles' Fracture. J Hand Surg Br 1989; 14: 149–154
Knirk JL, Jupiter JB. Intra-articular Fractures of the distal End of the Radius in young Adults. J Bone Joint Surg Am 1986; 68: 647–649
Lang PO, Bickel KD.Distal radius fractures: Percutaneous treatment versus open reduction with internal fixation. J Hand Surg Am. 2014 Mar; 39(3): 546-548. doi: 10.1016/j.jnsa.2013.11.039
McMurtry RY, Jupiter JB. Fractures of the distal Radius. In: Browner BD, Jupiter JB, Levine AM et al., eds. Skeletal Trauma. Philadelphia: Saunders; 1992: 1063–1094
Melone CP. Articular Fractures of the distal Radius. Orthop Clin North Am 1984; 15: 217–236
Missakian ML, Cooney III WP, Amadio PC et al. Open Reduction and internal Fixation for distal Radius Fractures. J Hand Surg Am1992; 17: 745–755
Oestern HJ, Hüls E. Die differenzierte Behandlung distaler Radiusfrakturen. Zentralbl Chir 1994; 119: 521–532
Petracic B, Balk R, Fraensen M et al. Indikation zur Behandlung der distalen Radiusfrakturen bei Erwachsenen und Beurteilung des primären Behandlungsergebnisses. Trauma Berufskrankh 1998; 1: 33–39
Siebert HR, Klonz A. Distale Radiusfraktur. Unfallchirurg 2005; 108: 235-153. DOI: 10.1007/s0113-005-0912-5
Watters WC, Sanders JO, Muray J, Patel N. The American Academy of Orthopaedic Surgeons appropriate use criteria on the treatment of distal radius fractures. J Bone Joint Surg Am. 2014 Jan; 96(2): 160-161. doi: 10.2106/JBJS.M.01314

4.3 Verletzungen der Handwurzel

4.3.1 Skaphoidfraktur

Bickert B. Frakturversorgung der karpalen Reihe: Trauma Berufskrankh 2010; 12: 308–312
Dönicke T, Friedel R. Skaphoidfraktur und Skaphoidpseudarthrose. In: Handchirurgie. Berlin: Springer; 2011: 669–695
Geissler W, Slade JF. Fractures of the Carpal Bones. In: Green's operative Hand Surgery. 6. Aufl. Philadelphia: Elsevier; 2011: 639–707
Jeon IH, Oh CW, Park BC et al. Minimal invasive percutaneous Herbert Screw Fixation in acute unstable Scaphoid Fracture. Hand Surg 2003; 8: 213–218
Krimmer H, Schmitt R, Herbert T. Kahnbeinfrakturen-Diagnostik, Klassifikation und Therapie. Unfallchirurg 2000; 103: 812–819
Küntscher M, Tränkle M, Sauerbier M et al. Versorgung proximaler Kahnbeinpseudarthrosen und -frakturen mit der Mini-Herbert-Schraube über einen dorsalen Zugang. Unfallchirurg 2001; 104: 813–819
Ram AN, Chung KC. Evidence-based Management of acute nondisplaced Scaphoid Waist Fractures. J Hand Surg Am 2009; 34(4): 735–738
Sauerbier M, Müller M. Scaphoidfrakturen: Diagnostik, Zugangswege, Komplikationen. Zentralbl Chir 2007; 132(3): W42–53
Schädel-Höpfner M, Böhringer G, Gotzen L. Die perkutane Osteosynthese der Skaphoidfraktur mit der Herbert-Whipple-Schraube – Technik und Resultate. Handchir Mikrochir Plast Chir 2000; 32(4)
Schaefer M, Siebert HR. Die Kahnbeinfraktur. Unfallchirurg 2002; 105: 540–553

4.3.2 Perilunäre Luxation

Bickert B, Sauerbier M, Germann G. Scapholunate Ligament Repair using the MITEK™ Bone Anchor. J Hand Surg (British and European Volume) 2000; 25B: 188–192
Herzberg G, Comtet JJ, Linscheid RL et al. Perilunate Dislocations and Fracture-Dislocations: A Multicenter Study. J Hand Surg Am 1993; 18: 768–779

Kremer T, Wendt M, Riedel K et al. Open Reduction for perilunate Injuries – clinical Outcome and Patient Satisfaction. J Hand Surg Am 2010; 35: 1599–1606
Mayfield JK. Mechanism of Carpal Injuries. Clin Orthop Rel Research 1980; 149, 45–54
Vogele T, Wozasek GE, Gohritz A et al. Konservative versus operative Therapie der perilunären Luxationen und Luxationsfrakturen. Handchir Mikrochir Plast Chir 1999; 31: 248–252

4.3.3 Skaphoidpseudarthrose

Bürger H, Gaggl A, Kukutschki W et al. Das freie mikrovaskuläre Knochentransplantat vom medialen Femurkondylus zur Behandlung der Kahnbeinpseudarthrose. Oper Orthop Traumatol 2009; 21: 396–404
Doi K, Oda T, Soo-Heong T. Free vascularized Bone Graft for Nonunion of the Scaphoid. J Hand Surg 2000; 25A: 507–519
Filan SL, Herbert TJ. Herbert Screw Fixation of Scaphoid Fractures. J Bone Joint Surg 1996; 78-B: 519–529
Jaminet P, Werdin F, Pfau M et al. Behandlungsalgorithmus der Kahnbeinpseudarthrose. Eine retrospektive radiologische Fall-Kontroll-Studie. Unfallchirurg 2012; 115: 994–999
Küntscher M, Tränkle M, Sauerbier M et al. Versorgung proximaler Kahnbeinpseudarthrosen und -frakturen mit der Mini-Herbert-Schraube über einen dorsalen Zugang. Unfallchirurg 2001; 104: 813–819
Sauerbier M, Bickert B, Tränkle M et al. Operative Behandlungsmöglichkeiten bei fortgeschrittenem karpalem Kollaps (SNAC/SLAC wrist). Unfallchirurg 2000; 103: 564–571
Sauerbier M, Bishop AT, Ofer N. Gestielte vaskularisierte Knochentransplantate von der Streckseite des peripheren Speichenendes zur Skaphoidrekonstruktion. Oper Orthop Traumatol 2009; 21: 373–385
Wheeless CR. Duke's Orthopaedics 2012. http://www.wheelessonline.com/ortho/non_union
Zaidemberg C, Siebert JW, Angrigiani C. A new vascularized Bone Graft for Scaphoid Nonunion. J Hand Surg 1991; 16A: 474–478

4.3.4 Karpale Instabilität

Berger RA, Bishop AT, Bettinger PC. New dorsal capsulotomy for the surgical exposure of the wrist. Ann Plast Surg 1995; 35: 54–59
Bickert B, Sauerbier M, Germann G. Scapholunate ligament repair using the Mitek bone anchor. J Hand Surg Br 2000; 25: 188–192
Blatt G. Capsulodesis in reconstructive hand surgery: dorsal capsulodesis for the unstable scaphoid and volar capsulodesis following excision of the distal ulna. Hand Clin 1987;3:81–102.
Busse F, Felderhoff J, Krimmer H, Lanz U. Scapholunate dissociation: treatment by dorsal capsulodesis. Handchir Mikrochir Plast Chir 2002; 34: 173–181 (in German).
Crisco JJ, Pike S, Hulsizer-Galvin DL, et al. Carpal bone postures and motions are abnormal in both wrists of patients with unilateral scapholunate interosseous ligament tears. J Hand Surg Am 2003;28:926–937
Gajendran VK, Peterson B, Slater RR, Szabo RM. Long-term outcomes of dorsal intercarpal ligament capsulodesis for chronic scapholunate dissociation. J Hand Surg Am 2007; 32: 1323–1333
Garcia-Elias M, Lluch AL, Stanley JK. Three-ligament tenodesis for the treatment of scapholunate dissociation: indications and surgical technique. J Hand Surg Am 2006; 31: 125–134
Konduru RS, Scott I, Mehdi R et al. Dorsal capsulodesis for scapholunate instability: effect on patient disability and wrist pain. J Hand Surg Br 2006; 31: 311–316
Kremer T, Wendt M, Riedel K, Sauerbier M, Germann G, Bickert B. Open reduction for perilunate injuries--clinical outcome and patient satisfaction. J Hand Surg Am. 2010; 35: 1599-606
Larsen CF, Mathiesen FK, Lindequist S. Measurements of carpal bone angles on lateral wrist radiographs. J Hand Surg Am 1991;16:888–893
Lavernia CJ, Cohen MS, Taleisnik J. Treatment of scapholunate dissociation by ligamentous repair and capsulodesis. J Hand Surg Am 1992; 17: 354–359
Linscheid RL, Dobyns JH. Treatment of scapholunate dissociation: rotatory subluxation of the scaphoid. Hand Clin 1992;8:645–652
Mayfield JK, Johnson RP, Kilcoyne RK. Carpal dislocations: pathomechanics and progressive perilunar instability. J Hand Surg Am 1980 May; 5: 226-241

Megerle K, Bertel D, Germann G, Lehnhardt M, Hellmich S. Long-term results of dorsal intercarpal ligament capsulodesis for the treatment of chronic scapholunate instability. J Bone Joint Surg Br 2012 Dec; 9 4: 1660-1665
Minami A, Kato H, Iwasaki N. Treatment of scapholunate dissociation: ligamentous repair associated with modified dorsal capsulodesis. Hand Surg 2003; 8: 1–6
Moran SL, Cooney WP, Berger RA, Strickland J. Capsulodesis for the treatment of chronic scapholunate instability. J Hand Surg Am 2005; 30: 16–23
Moran SL, Ford KS, Wulf CA, Cooney WP. Outcomes of dorsal capsulodesis and tenodesis for treatment of scapholunate instability. J Hand Surg Am 2006; 31: 1438–1446
O'Meeghan CJ, Stuart W, Mamo V, Stanley JK, Trail IA. The natural history of an untreated isolated scapholunate interosseus ligament injury. J Hand Surg Br 2003; 28: 307–310
Pomerance J. Outcome after repair of the scapholunate interosseous ligament and dorsal capsulodesis for dynamic scapholunate instability due to trauma. J Hand Surg Am 2006; 31: 1380–1386
Slater RR, Szabo RM, Bay BK, Laubach J. Dorsal intercarpal ligament capsulodesis for scapholunate dissociation: biomechanical analysis in a cadaver model. J Hand Surg Am 1999; 24: 232–239
Weiss AP. Scapholunate ligament reconstruction using a bone-retinaculum-bone autograft. J Hand Surg Am 1998; 23: 205–215
Wyrick JD, Youse BD, Kiefhaber TR. Scapholunate ligament repair and capsulodesis for the treatment of static scapholunate dissociation. J Hand Surg Br 1998; 23: 776–780

4.4 Frakturen der Mittelhand

4.4.1 Metakarpalfrakturen

Martini AK, Daecke W. Traumatologische Handchirurgie. Berlin: Springer; 2010
Windolf J, Rueger JM, Werber KD et al. Behandlung von Mittelhandfrakturen. Empfehlungen der Sektion Handchirurgie der Deutschen Gesellschaft für Unfallchirurgie. Unfallchirurg 2009; 112: 577–589
Wolfe SW, Hotchkiss RN, Pederson WC et al. Green's operative Hand Surgery. 6th ed. Philadelphia: Churchill Livingstone; 2011
Towfigh H, Hierner R, Langer M et al. Handchirurgie. Berlin: Springer; 2011

4.4.2 Bennett- und Rolando-Frakturen

Langhoff O, Andersen K, Kjaer-Petersen K. Rolando's Fracture. J Hand Surg Br 1991; 16: 454–459
Kjaer-Petersen K, Langhoff O, Andersen K. Bennett's Fracture. J Hand Surg Br 1990; 15: 58–61
Foster RJ, Hastings H. Treatment of Bennett, Rolando, and vertical intraarticular trapezial Fractures. Clinical Orthopaedics and related Research 1987: 121–129
Thurston AJ, Dempsey SM. Bennett's Fracture: a medium to long-term Review. The Australian and New Zealand Journal of Surgery 1993; 63: 120–123
Timmenga EJ, Blokhuis TJ, Maas M et al. Long-term Evaluation of Bennett's Fracture. A Comparison between open and closed Reduction. J Hand Surg Br 1994; 19: 373–377
Livesley PJ. The conservative Management of Bennett's Fracture-Dislocation: a 26-year Follow-up. J Hand Surg Br 1990; 15: 291–294
van Niekerk JL, Ouwens R. Fractures of the Base of the first Metacarpal Bone: Results of surgical Treatment. Injury 1989; 20: 359–362

4.5 Sehnen- und Bandverletzungen

4.5.1 Beugesehnenverletzungen

Beris AE, Darlis NA, Korompilias AV et al. Two-Stage Flexor Tendon Reconstruction in Zone II using a Silicone Rod and a pedicled intrasynovial Graft. J Hand Surg Am 2003; 28(4): 652–660
Chow JA, Thomes LJ, Dovelle S et al. Controlled Motion Rehabilitation after Flexor Tendon Repair and Grafting. A Multicentre Study. J Bone Joint Surg Br 1988; 70(4): 591–595
Derby BM, Wilhelmi BJ, Zook EG et al. Flexor Tendon Reconstruction. Clin Plast Surg 2011; 38(4): 607–619, Review
Dovelle S, Heeter PK. The Washington Regimen: Rehabilitation of the Hand following Flexor Tendon Injuries. Phys Ther 1989; 69(12): 1034–1040, Review
Dy CJ, Hernandez-Soria A, Ma Y et al. Complications after Flexor Tendon Repair: a systematic Review and Meta-Analysis. J Hand Surg Am 2012; 37(3): 543–551, Review

Kleinert HE, Kutz JE, Atasoy E et al. Primary Repair of Flexor Tendons. Orthop Clin North Am 1973; 4(4): 865–876, Review
Lister GD, Kleinert HE, Kutz JE et al. Primary Flexor Tendon Repair followed by immediate controlled Mobilization. J Hand Surg Am 1977; 2(6): 441–451
Starnes T, Saunders RJ, Means KR Jr. Clinical Outcomes of Zone II Flexor Tendon Repair depending on Mechanism of Injury. J Hand Surg Am 2012; 37(12): 2532–2540, DOI: 10.1016/j.jhsa.2012.09.021

4.5.2 Strecksehnenverletzungen

Aiache A, Barsky AJ, Weiner DL. Prevention of the Boutonniere Deformity. Plastic and reconstructive Surgery 1970; 46: 164–167
Badia A, Riano F. A simple Fixation Method for unstable bony Mallet Finger. The Journal of Hand Surgery 2004; 29: 1051–1055
Pegoli L, Toh S, Arai K et al. The Ishiguro Extension Block Technique for the Treatment of Mallet Finger Fracture: Indications and clinical Results. J Hand Surg Br 2003; 28: 15–17
Snow JW. Use of a retrograde Tendon Flap in Repairing a severed Extensor in the Pip Joint Area. Plastic and reconstructive Surgery 1973; 51: 555–558
Strauch R. Extensor Tendon Injuries. In: Wolfe SW, ed. Green's operative Hand Surgery. 6th ed. New York: Churchill Livingstone; 2011: 2392
Verdan C. Primary and secondary Repair of Flexor and Extensor Injuries. In: FJ, ed. Hand Surgery. Baltimore: Williams & Wilkins; 1966: 220h

4.5.3 Bandverletzungen an der Hand

Bandverletzungen am Daumensattelgelenk

Bosmans B, Verhofstad MHJ, Gosens T: Traumatic thumb carpometacarpal joint dislocations. J Hand Surg Am 2008; 33: 438-441
Fotiadis E, Svarnas T, Lyrtzis C, Papadopoulos A, Akritopoulos P, Chalidis B. Isolated thumb carpometacarpal joint dislocation: a case report and review of the literature. Journal of Orthopaedic Surgery and Research 2010, 5: 16 (free PMC article)

Rekonstruktion des Kapsel-Band-Apparats bei veralteten CMC-1-Subluxationen

Eaton RG, Littler JW. Ligament Reconstruction for the painful Thumb Carpometacarpal Joint. J Bone Joint Surg Am 1973; 55: 1655–1666
Freedman DM, Eaton RG, Glickel SZ. Long-term results of volar ligament reconstruction for symptomatic basal joint laxity. J Hand Surg Am. 2000; 25: 297-304
Nyszkiewicz R, Neumann R. Erfahrungen mit der Eaton-Littler-Plastik zur Therapie der Bandinstabilität am Daumensattelgelenk. Handchir Mikrochir Plast Chir. 2001; 33: 424-430
Wolf JM, Oren TW, Ferguson B, Williams A, Petersen B. The carpometacarpal stress view radiograph in the evaluation of trapeziometacarpal joint laxity. J Hand Surg Am. 2009; 34: 1402-1406

Bandverletzungen des Daumengrundgelenks

Glickel SZ. Thumb metacarpophalangeal Joint Ulnar collateral Ligament Reconstruction using a Tendon Graft. Tech Hand Upper Extrem Surg 2002; 6: 133–139
Haußmann P. Die operative Behandlung der Rupturen des ulnaren Seitenbandes am Daumengrundgelenk. Operat Orthop Traumatol 1991; 3: 279–292
Strandell G. Total Rupture of the Ulnar collateral Ligament of the metacarpophalangeal Joint of the Thumb: Results of Surgery in 35 Cases. Acta Chir Scand 1959; 118: 72–80

Kollateralbandverletzungen der Fingergrundgelenke

Pillukat T, Schädel-Höpfner M, Windolf J et al. Kollateralbandverletzungen der Fingergrundgelenke. Unfallchirurg 2012; 7: 616–622

Chronische Kollateralband-verletzungen der Fingergrund-gelenke

Pillukat T, Schädel-Höpfner M, Windolf J et al. Kollateralbandverletzungen der Fingergrund-gelenke. Unfallchirurg 2012; 7: 616–622
Gaston RG, Lourie GM, Peljovich AE. Radial collateral Ligament Injury of the Index metacarpo-phalangeal Joint: an underreported but important Injury. J Hand Surg Am 2006; 31: 1355–1361

Kollateralbandverletzungen der Fingermittelgelenke

Hintringer W, Leixnering M. Knöcherne oder ligamentäre Verletzungen am Mittelgelenk und ihre Behandlung. Handchir Mikrochir Plast Chir 1991; 23: 59–66

4.6 Weichteilverletzungen der Hand

4.6.1 Einführung

Keine Literaturangaben nötig.

4.6.2 Weichteildefekte an den Fingern

VY-Lappenplastiken (Tranquilli-Leali, Kutler)

Tranquilli-Leali E. Reconstruzione dell'a Pice delle Falangi mediante Autoplastica volare Perduncolata per Scarrimento. Infort Traum Lavoro 1935; 1: 186–193
Kutler W. A new Method for Finger Tip Amputation. J Am Med Assoc 1947; 133(1): 29

Crossfinger- und Reversed-Crossfinger-Lappenplastik

Atasoy E. Reversed Cross Finger Subcutaneous Flap. J Hand Surg1982; 7: 481–483
Büchler U, Frey HP. The dorsal middle phalangeal Finger Flap. Handchir Mikrochir Plast Chir 1988; 20: 239–243
Cohen BE, Cronin ED. An innervated Cross Finger Flap for Fingertip Reconstruction. Plastic Reconstr Surg 1983; 72: 688–697
Cronin TD. The Cross Finger Flap – a new Method of Repair. Am Surg 1951; 17: 419
Mutaf M, Sensoz O, Ustuner ET. A new Design of the Cross Finger Flap: The C-Ring Flap. Br J Plast Surg 1993; 46: 97–104
Pakiam IA. The reversed Dermis Flap. Br J Plast Surg 1978; 31: 131–135

Moberg-Lappenplastik

Moberg E. Aspects of Sensation in Reconstructive Surgery of the Upper Extremity. J Bone Joint Surg Am 1964; 46: 817–825
O'Brien B. Neurovascular Island Pedicle Flaps for terminal Amputations and digital Scars. Br J Plast Surg 1968; 21(3): 258–261
Dellon AL. The extended Palmar Advancement Flap. J Hand Surg Am 1983; 8(2): 190–194

Foucher-Lappenplastik

Foucher G, Braun JB. A new Island Flap Transfer from the Dorsum of the Index to the Thumb. Plast Reconstr Surg 1979; 63: 344–349
Hilgenfeldt O. Über einen vielfach verwendungsfähigen neurovaskulären Lappen zur Behebung von Schäden der radialen Handhälfte. Langenbecks Arch Klin Chir 1964; 306: 152–156
Tränkle M, Germann G, Heitmann C et al. Defect Coverage and Reconstruction of Thumb Sensibility with the first dorsal metacarpal Artery Flap. Chirurg 1995; 75(10): 996–1002
Williams RL, Nanchahal J, Sykes PJ et al. The Provision of innervated Skin Cover for the injured Thumb using dorsal metacarpal Artery Island Flaps. J Hand Surg 1995; 20 B: 231–236
Yang JY. The first dorsal metacarpal Flap in first Web Space and Thumb Reconstruction. Ann Plast Surg 1991; 27: 258–264

DMCA (dorsometakarpale Arterien-Lappenplastik)

Germann G, Biedermann N, Levin SL. Intrinsic Flaps in the Hand. Clin Plast Surg 2011; 38(4): 729–738
Maruyama Y. The Reverse dorsal metacarpal Flap. Br J Plast Surg 1990; 43(1): 24–27

Quaba AA, Davison PM. The distally-based dorsal Hand Flap. Br J Plast Surg 1990; 43(1): 28–39

4.6.3 Weichteildefekte an der Mittelhand

Radialislappenplastik

Kaufman MR, Jones NF. The Reverse radial Forearm Flap for soft tissue Reconstruction of the Wrist and Hand. Tech Hand up Extrem Surg 2005; 9(1): 47–51
Mühlbauer W, Herndl E, Stock W. The Forearm Flap. Plast Reconstr Surg 1982; 70(3): 336–344
Noaman HH. Salvage of complete degloved Digits with reversed vascularized pedicled Forearm Flap: a new Technique. J Hand Surg Am 2012; 37(4): 832–836
Song R, Gao Y, Song Y et al. The Forearm Flap. Clin Plast Surg 1982; 9(1): 21–26
Yang G, Chen B, Gao Y et al. Forearm free Skin Transplantation. Nat Med J China 1981; 61: 139–145

Interossea-posterior-Lappenplastik

Acharya AM, Bhat AK, Bhaskaranand. The reverse posterior interosseous Artery Flap: technical Considerations in raising an easier and more reliable Flap. J Hand Surg Am 2012; 37(3): 575–582
Moshammer H, Schwarzl F, Haas F et al. The posterior interosseous Flap – Review and personal Experience. Handchir Mikrochir Plast Chir 1998; 30(2): 82–86
Penteado CV, Masquelet AC, Chevrel JP. The anatomic Basis of the fascio-cutaneous Flap of the posterior interosseous Artery. Surg Radiol Anat 1986; 8(4): 209–215
Zancolli EA, Angrigiani C. Posterior interosseous Island Forearm Flap. J Hand Surg Br 1988; 13(2): 130–135

Leistenlappenplastik

Boo Chai K. John Wood and his Contributions to plastic Surgery: The first Groin Flap. Br J Plast Surg 1977; 30: 9–13
Graf P, Biemer E. Morbidity of the Groin Flap Transfer: are we getting something for nothing? Br J Plast Surg 1992; 45: 86–88
Hahn SB, Kim HK. Free Groin Flaps in microsurgical Reconstruction of the Extremity. J Reconstr Microsurgery 1991; 7/3: 187–195
Mc Gregor IA, Jackson IT. The Groin Flap. Brit J Plast Surg 1972; 25: 3–16

4.7 Lunatumnekrose

De Smet L, Verellen K, D'Hoore K et al. Long-term Results of radial Shortening for Kienbock's Disease. Acta Orthop Belg 1995; 61: 212–217
Haerle M, Schaller HE, Mathoulin C. Vascular Anatomy of the palmar Surfaces of the distal Radius and Ulna: its Relevance to pedicled Bone Grafts at the distal palmar Forearm. J Hand Surg Br 2003; 28: 131–136
Nakamura R, Tsuge S, Watanabe K et al. Radial Wedge Osteotomy for Kienbock Disease. J Bone Joint Surg Am 1991; 73: 1391–1396
Sheetz KK, Bishop AT, Berger RA. The arterial Blood Supply of the distal Radius and Ulna and its potential Use in vascularized pedicled Bone Grafts. J Hand Surg Am 1995; 20: 902–914

4.8 Engpasssyndrome

Agee JM, McCarroll HR Jr, Tortosa RD et al. Endoscopic Release of the Carpal Tunnel: a randomized prospective Multicenter Study. J Hand Surg Am 1992; 17: 987–995
Assmus H, Antoniadis G, Hrsg. Nervenkompressionssyndrome. 1. Aufl. Darmstadt: Steinkopf; 2008, korr. Nachdruck 2011
Borisch N, Haussmann P. Neurophysiological Recovery after open Carpal Tunnel Decompression: Comparison of simple Decompression and Decompression with Epineurotomy. J Hand Surg Br 2003; 28: 450–454
Cakmak F, Wolf MB, Bruckner T et al. Follow-up Investigation of open Trigger Digit Release. Arch Orthop Trauma Surg 2012; 132: 685–691
Chow JC. Endoscopic Release of the Carpal Ligament: a new Technique for Carpal Tunnel Syndrome. Arthroscopy 1989; 5: 19–24
Shum C, Parisien M, Strauch RJ et al. The Role of Flexor Tenosynovectomy in the operative Treatment of Carpal Tunnel Syndrome. J Bone Joint Surg Am 2002; 84-A: 221–225

4.9 Arthrose

Downing ND, Davis TR. Trapezial Space Height after Trapeziectomy: Mechanism of Formation and Benefits. J Hand Surg Am 2001; 26: 862–868
Epping W, Noack G. Surgical Treatment of the Saddle Joint Arthrosis. Handchirurgie, Mikrochirurgie, plastische Chirurgie 1983; 15: 168–176
Kaszap B, Daecke W, Jung M. Outcome Comparison of primary Trapeziectomy versus secondary Trapeziectomy following failed total Trapeziometacarpal Joint Replacement. J Hand Surg Am 2013; 38: 863–871, e863
Martini AK, Frank G, Kuster HH. Clinical Experiences with Wilhelm's Method of Wrist Joint Denervation. Z Orthop Ihre Grenzgeb 1983; 121: 767–769
Wilhelm A. Articular Denervation and its anatomical Foundation. A new therapeutic Principle in Hand Surgery. On the Treatment of the later Stages of Lunatomalacia and navicular Pseudarthrosis. Hefte Unfallheilkd 1966; 86: 1–109

4.10 Morbus Dupuytren

Baird KS, Alwin WH, Crossan JF et al. T-cell mediated Response in Dupuytren's Disease. Lancet 1993; 341: 1622–1623
Berger A, Delbruck A, Brenner P et al. Dupuytren's Disease: Pathobiochemistry and clinical Management. New York: Springer; 1994
Burge P, Hoy G, Regan P et al. Smoking, Alcohol, and the Risk of Dupuytren's Contracture. J Bone Joint Surg 1997; 79B: 206–210
Darby I, Skalli O, Gabbiani G. Alpha-smooth Muscle Actin is transiently expressed by Myofibroblasts during experimental Wound Healing. Lab Invest 1990; 63: 21–29
Hueston JT. Dupuytren's Contracture. Lancet 1986; 22(2): 1226
McFarlane RM, Jamieson WG. Dupuytren's Contracture: The Management of one hundred Patients. J Bone Joint Surg 1966; 48: 1095
Saar JD. Dupuytren's Disease: An Overview. Plast Reconstr Surg 2000; 106: 125
Tubiana R, Leclercq C, Hurst LC et al. Dupuytren's Disease. London: Martin Dunitz; 2000

5 Wirbelsäule

5.1 Verletzungen der Halswirbelsäule

Aebi M, Etter C, Coscia M. Fractures of the Odontoid Process. Treatment with anterior Screw Fixation. Spine 1989; 14: 1065–1070
Aebi M, Zuber K, Marchesi D. Treatment of Cervical Spine Injuries with anterior Plating. Indications, Techniques and Results. Spine 1991; 16: 38–45
Anderson LD, d'Alonzo RT. Fractures of the Odontoid Process of the Axis. J Bone Joint Surg Am 1974: 56: 1663–1674
Blauth M. Obere Halswirbelsäule. In: Tschern H, Blauth M, Hrsg. Unfallchirurgie Wirbelsäule. Berlin: Springer; 1998: 80
Blauth M. Untere Halswirbelsäule. In: Tschern H, Blauth M, Hrsg. Unfallchirurgie Wirbelsäule. Berlin: Springer; 1998: 140–153
Blauth M, Richter M, Lange U. Transarticular Screw Fixation of C1/C2 in atlanto-axial Instability. Comparison between percutaneous and open Procedures. Orthopäde 1999; 28: 651–661
Blauth M, Lange UF, Knop C et al. Spinal Fractures in the Elderly and their Treatment. Orthopäde 2000; 29: 302–317
Böhler J, Gaudernack T. Anterior Plate Stabilization for Fracture Dislocations of the lower Cervical Spine. J Trauma 1980; 20: 203–205
Brooks AL, Jenkins EB. Atlantoaxial Arthrodesis by the Wedge Compression Method. J Bone Joint Surg Am 1978; 60: 279–284
Caspar W, Pitzen T. Anterior Cervical Fusion and trapezoidal Plate Stabilization for re-do Surgery. Surg Neuro 1999; 52: 345–352
Clark CR, White AA III. Fractures of the Dens: a Multicenter Study. J Bone Joint Surg Am 1985; 67: 1340–1348
Cloward RB. The anterior Approach for Removal of ruptured Discs. J Neurosurg 1958; 15: 602–617
Dickmann CA, Foley KT, Sonntag VK et al. Canulated Screws for Odontoid Screw Fixation and atlantoaxial transarticular Screw Fixation. Technical Note. J Neurosurg 1995; 83: 1095–1100

Effendi B, Roy D, Cornish B et al. Fractures of the Ring of the Axis. A Classification based on the Analysis of 131 Cases. J Bone Joint Surg Br 1981: 63: 319–327
Eysel P, Roosen K. Ventral or dorsal Spondylodesis in Dens Basal Fracture – a new Classification for Choice of surgical Approach. Zentralbl Neurochir 1993; 54: 159–164
Gallie E. Fracture and Dislocations of the Cervical Spine. Am J Surg 1939; 46: 495–499
Garfin SR, Botte MJ, Waters VL et al. Complications in the Use of the Halo Fixation Device. J Bone Jt Surg 1986; 68A: 320
Gluf WM, Schmidt MH, Apfelbaum RI. Atlantoaxial transarticular Screw Fixation: A Review of surgical Indications, Fusion Rate, Complications, and Lesson learned in 191 adult Patients. J Neurosurg Spine 2005; 2: 155–163
Grob D, Jeanneret B, Aebi M et al. Atlantoaxial Fusion with transarticular Screw Fixation. J Bone Joint Surg Br 1991; 73: 972–976
Harms J, Melcher RP. Posterior C1/C2 Fusion with polyaxial Screw and Rod Fixation. Spine 2001; 26(22): 2467–2471
Jeanneret B, Magerl F. Primary posterior Fusion C1/C2 in Odontoid Fractures: Indication, Technique and Results in transarticular Screw Fixation. J Spine Disord 1992; 5: 464–475
Jeanneret B, Gebhard JS, Magerl F. Transpedicular Screw Fixation of articular Mass-Fracture-Separation: Results of anatomical Study and operative Technique. J Spine Disord 1994; 7: 222–229
Jefferson G. Fractures of the atlas vertebra. Report of four Cases and Review of those previous recorded. Br J Surg 1920; 7: 407–420
Josten C. Die traumatische Spondylolisthese des Axis. Orthopäde 1999; 28: 394–400
Kleinfeld F. Zur Behandlung von Frakturen der Halswirbelsäule mit dem Halo Fixateur. Unfallheilkunde 1981; 84: 161
Lehmann W, Briem D, Blauth M et al. Biomechanical Comparison of anterior Cervical Spine locked and unlocked Plate-Fixation Systems. Eur Spine J 2005: 243–249
Madawi AA, Casey AT, Solanki GA et al. Radiolocical and anatomical Evaluation of the atlantoaxial transarticular Screw Fixation Technique. J Neurosurg 1997; 86: 961–968
Magerl F, Seemann P. Stable posterior Fusion of the Atlas and Axis by transarticular Screw Fixation. In: Kehr P, Wiedner A, eds. Cervical Spine. Berlin: Springer; 1986: 322–327
Pitzen T, Wilke HJ, Caspar C et al. Evaluation of a new monocortical Screw for anterior Cervical Fusion and Plating by a combined biomechanical and clinical Study. European Spine Journal 1999; 8
Reindl R, Ouellet J, Harvey EJ et al. Anterior Reduction for Cervical Spine dislocation. Spine 2006; 31: 648–652
Rosiek MR, Knop C. Verletzungen der unteren Halswirbelsäule – Klassifikation und Behandlungskonzepte. Unfallchirurg 2006; 109: 471–482
Schleicher P, Scholz M, Schnake K et al. Standarddiagnostik und Management von subaxialen HWS Verletzungen. Trauma Berufskrankh 2008; 10(52): 175–181
Sen MK, Steffen T, Beckmann I et al. Atlantoaxial Fusion using anterior transarticular Screw Fixation of C1–C2: technical Innovation and biomechanical Study. Eur Spine J 2005; 14(5): 512–518
Ulrich C, Bühren V. Verletzungen der Halswirbelsäule. Orthopädie und Unfallchirurgie up2date 2006; 1: 415–441
von Gumppenberg S, Claudi B. Die konservative Frakturbehandlung der Halswirbelsäule mit dem Halo Fixateur. Akt Traumatol 1989; 19: 57
von Gumppenberg S, Harms J. Indikation und Technik der Osteosynthese bei Halswirbelsäulenverletzungen. Chirurg 1992; 63: 849–855
Xie Ning MD, Khoo Larry TMD, Yuan Wend MD et al. Combined anterior C2–C3 Fusion and C2 Pedicle Screw Fixation for the Treatment of unstable Hangman's Fracture: a Contrast to anterior Approach only. Spine 2010; 35(6): 613–619

5.2 Verletzungen der Brust- und Lendenwirbelsäule

Beisse R, Potulski M, Temme C et al. Ein minimalinvasiver Zugang zur ventralen Versorgung thorakolumbaler Frakturen der Wirbelsäule. Unfallchirurg 1998; 101: 619–627
Beisse R, Mückley T, Schmidt MH et al. Surgical Technique and Results of endoscopic anterior Spinal Canal Decompression. J Neurosurg Spine 2005; 2: 128–136
Blattert TR, Katscher S. Minimiert offene Techniken. In: Bühren V, Josten C. Chirurgie der verletzten Wirbelsäule. Berlin: Springer; 2013: 69–84
Briem D, Rueger JM, Lienhart W. Einheilung autogener Transplantate nach dorsoventraler Instrumentierung instabiler Frakturen der thorakolumbalen Wirbelsäule. Unfallchirurg 2003; 106: 195–203

Bühren V, Beisse, R, Potulski M. Minimalinvasive ventrale Spondylodese bei Verletzungen der Brust- und Lendenwirbelsäule. Chirurg 1997; 11: 1076–1084
Fan SW, Hu ZJ, Zhao FD et al. Multifidus Muscle Changes and clinical Effects of one-level posterior lumbar Interbody Fusion: minimally invasive Procedure versus conventional open Approach. Eur Spine J 2010; 19: 316–324
Gonschorek O, Bühren V. Verletzungen der thorakolumbalen Wirbelsäule. Orthopädie und Unfallchirurgie up2date 2006; 1: 195–222
Gonschorek O, Spiegel U, Weiß T et al. Rekonstruktion der ventralen Säule nach thorakolumbalen Wirbelsäulenverletzungen. Unfallchirurg 2011; 114: 26–34
Hauck S, Gonschorek O. Endoskopisch gestützte Verfahren. In: Bühren V, Josten C. Chirurgie der verletzten Wirbelsäule. Berlin: Springer; 2013: 85–100
Josten C. Halswirbelsäule. In: Bühren V, Josten C. Chirurgie der verletzten Wirbelsäule. Berlin: Springer; 2013: 135–179
Kandziora F, Schnake KJ, Klostermann CK et al. Vertebral Body Replacement in Spine Surgery. Unfallchirurg 2004; 107: 354–371
Kossmann T, Payneb B, Stahel PF et al. Traumatische Querschnittslähmung: operative Maßnahmen. Schweiz Med Wochenschr 2000; 130(22): 816–828
Kossmann T, Jacobi D, Trentz O. The Use of Retractor Systeme (SynFrame) for open, minimal invasive Reconstruction of the anterior Column of the Thoratic and Lumbar Spine. Eur Spine J 2001; 10: 396–402
Levin R, Matusz D, Hasharoni A et al. Mini-open thoracoscopically assisted Thoracotomy versus video-assisted thoracoscopic Surgery for anterior Release in thoracic Skoliosis and Kyphosis: a Comparison of operative and radiographic Results. Spine J 2005; 5: 632–638
Magerl F, Aebi M, Gertzbein SD et al. A comprehensive Classification of Thoracic and Lumbar Spine Injuries. Eur Spine J 1994; 3: 184–201
Payer M, Sottas C. Mini-open anterior Approach for Corporectomy in Thoracolumbar Spine. Surg Neurol 2008; 69: 25–32
Penzkofer R, Hofberger S, Spiegl U et al. Biomechanical Comparison of the End Plate Design of three Vertebral Body Replacement Systems. Arch Orthop Trauma Surg 2011; 13(9): 1253–1259
Pflugmacher R, Schleicher P, Schaefer J et al. Biomechanical Comparison of expandable Cages for Vertebral Body Replacement in the Thoracolumbar Spine. Spine 2004; 229: 1413–1419
Potulski M, Beisse R, Bühren V. Die thorakoskopisch gesteuerte Behandlung der vorderen Säule. Orthopäde 1999; 28: 723–730
Reinhold M, Schmoelz W, Canto F et al. A new distractable Implant for Vertebral Body Replacement: biomechanical Testing of four Implants for the Thoracolumbar Spine. Arch Orthop Trauma Surg 2009; 129: 1375–1382
Verheyden AP, Katscher S, Gonschorek O et al. Endoskopisch assistierte Rekonstruktion der thorakolumbalen Wirbelsäule in Bauchlage. Unfallchirurg 2002; 105: 873–880

5.3 Deformitäten der Wirbelsäule

5.3.1 Anatomisch-biomechanische Grundlagen

Keine Literaturanhaben nötig.

5.3.2 Dorsale Doppelstabinstrumentation

Bernhardt M, Bridwell KH. Segmental Analysis of the sagittal plane Alignment of the normal Thoracic and Lumbar Spines and Thoracolumbar Junction. Spine (Phila Pa 1976) 1989; 14: 717–721
Berthonnaud E, Dimnet J, Roussouly P et al. Analysis of the sagittal Balance of the Spine and Pelvis using Shape and Orientation Parameters. J Spinal Disord Tech 2005; 18: 40–47
Boos N, Dolan LA, Weinstein SL. Long-term clinical and radiographic Results of Cotrel-Dubousset Instrumentation of right Thoracic adolescent idiopathic Scoliosis. Iowa Orthop J 2007; 27: 40–46
Boulay C, Tardieu C, Hecquet J et al. Sagittal Alignment of Spine and Pelvis regulated by pelvic Incidence: Standard Values and Prediction of Lordosis. Eur Spine J 2006; 15: 415–422
Bridwell KH, Betz R, Capelli AM et al. Sagittal plane Analysis in idiopathic Scoliosis Patients treated with Cotrel-Dubousset Instrumentation. Spine (Phila Pa 1976) 1990; 15: 921–926

Bridwell KH. Decision making regarding Smith-Petersen vs. Pedicle Subtraction Osteotomy vs. vertebral Column Resection for spinal Deformity. Spine (Phila Pa 1976) 2006; 31: S171–178
Bullmann V, Halm HF, Niemeyer T et al. Dual-rod Correction and Instrumentation of idiopathic Scoliosis with the Halm-Zielke Instrumentation. Spine (Phila Pa 1976) 2003; 28: 1306–1313
Cho KJ, Bridwell KH, Lenke LG et al. Comparison of Smith-Petersen versus Pedicle Subtraction Osteotomy for the Correction of fixed sagittal Imbalance. Spine (Phila Pa 1976) 2005; 30: 2030–2037, discussion 2038
Danielsson AJ, Nachemson AL. Back Pain and Function 23 Years after Fusion for adolescent idiopathic Scoliosis: a case-control Study – Part II. Spine (Phila Pa 1976) 2003; 28: E373–383
Danielsson AJ, Romberg K, Nachemson AL. Spinal Range of Motion, Muscle Endurance, and Back Pain and Function at least 20 Years after Fusion or Brace Treatment for adolescent idiopathic Scoliosis: a case-control Study. Spine (Phila Pa 1976) 2006; 31: 275–283
Denis F. The three Column Spine and its Significance in the Classification of acute Thoracolumbar Spinal Injuries. Spine (Phila Pa 1976) 1983; 8: 817–831
Diab MG, Franzone JM, Vitale MG. The Role of posterior Spinal Osteotomies in pediatric Spinal Deformity Surgery: Indications and operative Technique. J Pediatr Orthop 2011; 31: S88–98
Dubousset J. Three-dimensional Analysis of the scoliotic Deformity. In: Weinstein SL, ed. Pediatric Spine: Principles and Practice. New York: Raven Press; 1994
Gill JB, Levin A, Burd T et al. Corrective Osteotomies in Spine Surgery. J Bone Joint Surg Am 2008; 90: 2509–2520
Guo X, Chau WW, Chan YL et al. Relative anterior Spinal Overgrowth in adolescent idiopathic Scoliosis. Results of disproportionate endochondral-membranous Bone Growth. J Bone Joint Surg Br 2003; 85: 1026–1031
Halm H, Niemeyer T, Halm B et al. Halm-Zielke Instrumentation as primary stable Improvement of the Zielke-VDS in idiopathic Scoliosis. 1 to 4 Year Outcome of a prospective Study of 29 consecutive Patients. Orthopäde 2000; 29: 563–570
Helenius I, Remes V, Yrjonen T et al. Harrington and Cotrel-Dubousset Instrumentation in adolescent idiopathic Scoliosis. Long-term functional and radiographic Outcomes. J Bone Joint Surg Am 2003; 85-A: 2303–2309
Hu R, Mustard CA, Burns C. Epidemiology of incident Spinal Fracture in a complete Population. Spine (Phila Pa 1976) 1996; 21: 492–499
Jackson RP, McManus AC. Radiographic Analysis of sagittal plane Alignment and Balance in standing Volunteers and Patients with Low Back Pain matched for Age, Sex, and Size. A prospective controlled clinical Study. Spine (Phila Pa 1976) 1994; 19: 1611–1618
Kim HJ, Blanco JS, Widmann RF. Update on the Management of idiopathic Scoliosis. Curr Opin Pediatr 2009; 21: 55–64
Kim YJ, Lenke LG, Cho SK et al. Comparative Analysis of Pedicle Screw versus Hook Instrumentation in posterior Spinal Fusion of adolescent idiopathic Scoliosis. Spine (Phila Pa 1976) 2004; 29: 2040–2048
Kim YJ, Lenke LG, Bridwell KH et al. Prospective pulmonary Function Comparison following posterior segmental Spinal Instrumentation and Fusion of adolescent idiopathic Scoliosis: is there a Relationship between major Thoracic Curve Correction and pulmonary Function Test Improvement? Spine (Phila Pa 1976) 2007; 32: 2685–2693
Koller H, Zenner J, Hitzl W et al. The Morbidity of open Transthoracic Approach for anterior Scoliosis Correction. Spine (Phila Pa 1976) 2010; 35: E1586–1592
Lafage V, Schwab F, Patel A et al. Pelvic Tilt and truncal Inclination: two Key radiographic Parameters in the Setting of Adults with Spinal Deformity. Spine (Phila Pa 1976) 2009; 34: E599–606
Lagrone MO, Bradford DS, Moe JH et al. Treatment of symptomatic Flatback after Spinal Fusion. J Bone Joint Surg Am 1988; 70: 569–580
Legaye J, Duval-Beaupere G, Hecquet J et al. Pelvic Incidence: a fundamental Pelvic Parameter for three-dimensional Regulation of Spinal sagittal Curves. Eur Spine J 1998; 7: 99–103
Lenke LG, Betz RR, Harms J et al. Adolescent idiopathic Scoliosis: a new Classification to determine Extent of Spinal Arthrodesis. J Bone Joint Surg Am 2001; 83-A: 1169–1181
Liljenqvist U, Hackenberg L, Link T et al. Pullout Strength of Pedicle Screws versus Pedicle and laminar Hooks in the Thoracic Spine. Acta Orthop Belg 2001; 67: 157–163
Lonner BS, Auerbach JD, Boachie-Adjei O et al. Treatment of Thoracic Scoliosis: are monoaxial Thoracic Pedicle Screws the best Form of Fixation for Correction? Spine (Phila Pa 1976) 2009; 34: 845–851

Lonner BS, Auerbach JD, Estreicher MB et al. Pulmonary Function changes after various anterior Approaches in the Treatment of adolescent idiopathic Scoliosis. J Spinal Disord Tech 2009; 22: 551–558
Lowenstein JE, Matsumoto H, Vitale MG et al. Coronal and sagittal Plane Correction in adolescent idiopathic Scoliosis: a Comparison between all Pedicle Screw versus hybrid Thoracic Hook lumbar Screw Constructs. Spine (Phila Pa 1976) 2007; 32: 448–452
Luk KD, Lee FB, Leong JC et al. The Effect on the lumbosacral Spine of long spinal Fusion for idiopathic Scoliosis. A minimum 10-year Follow-up. Spine (Phila Pa 1976) 1987; 12: 996–1000
Luk KD, Vidyadhara S, Lu DS et al. Coupling between sagittal and frontal Plane Deformity Correction in idiopathic Thoracic Scoliosis and its Relationship with postoperative sagittal Alignment. Spine (Phila Pa 1976) 2010; 35: 1158–1164
Mac-Thiong JM, Berthonnaud E, Dimar JR 2nd et al. Sagittal Alignment of the Spine and Pelvis during Growth. Spine (Phila Pa 1976) 2004; 29: 1642–1647
Mac-Thiong JM, Roussouly P, Berthonnaud E et al. Sagittal Parameters of global spinal Balance: normative Values from a prospective Cohort of seven hundred nine Caucasian asymptomatic Adults. Spine (Phila Pa 1976) 2010; 35: E1193–1198
Muschik MT, Kimmich H, Demmel T. Comparison of anterior and posterior double-rod Instrumentation for Thoracic idiopathic Scoliosis: results of 141 patients. Eur Spine J 2006; 15: 1128–1138
Newton PO, Upasani VV, Lhamby J et al. Surgical Treatment of main Thoracic Scoliosis with thoracoscopic anterior Instrumentation. A five-year Follow-up Study. J Bone Joint Surg Am 2008; 90: 2077–2089
Newton PO, Yaszay B, Upasani VV et al. Preservation of Thoracic Kyphosis is critical to maintain Lumbar Lordosis in the surgical Treatment of adolescent idiopathic Scoliosis. Spine (Phila Pa 1976) 2010; 35: 1365–1370
Oda I, Cunningham BW, Buckley RA et al. Does spinal kyphotic Deformity influence the biomechanical Characteristics of the adjacent Motion Segments? An in vivo Animal Model. Spine (Phila Pa 1976) 1999; 24: 2139–2146
Parent S, Odell T, Oka R et al. Does the Direction of Pedicle Screw Rotation affect the Biomechanics of direct transverse plane Vertebral Derotation? Spine (Phila Pa 1976) 2008; 33: 1966–1969
Perez-Grueso FS, Fernandez-Baillo N, Arauz de Robles S et al. The low lumbar Spine below Cotrel-Dubousset Instrumentation: long-term Findings. Spine (Phila Pa 1976) 2000; 25: 2333–2341
Ponte A. Posterior Column Shortening for Scheuermann's Kyphosis – an innovative Technique. In: Haher TMA, ed. Surgical Techniques for the Spine. New York: Thieme; 2003: 107–113
Ritzman TF, Upasani VV, Pawelek JB et al. Return of Shoulder Girdle Function after anterior versus posterior adolescent idiopathic Scoliosis Surgery. Spine (Phila Pa 1976) 2008; 33: 2228–2235
Rose PS, Lenke LG, Bridwell KH et al. Pedicle Screw Instrumentation for adult idiopathic Scoliosis: an Improvement over Hook/Hybrid Fixation. Spine (Phila Pa 1976) 2009; 34: 852–857, discussion 858
Schwab F, Lafage V, Patel A et al. Sagittal plane Considerations and the Pelvis in the adult Patient. Spine (Phila Pa 1976) 2009; 34: 1828–1833
Smith-Petersen MN, Aufranc OE. Osteotomy of the Spine for Correction of Flexion Deformity in Rheumatoid Arthritis. J Bone Joint Surg Am 1945; 27: 1–11
Soucacos PN, Zacharis K, Gelalis J et al. Assessment of curve Progression in idiopathic Scoliosis. Eur Spine J 1998; 7: 270–277
Tis JE, O'Brien MF, Newton PO et al. Adolescent idiopathic Scoliosis treated with open instrumented anterior Spinal Fusion: five-year Follow-up. Spine (Phila Pa 1976) 2010; 35: 64–70
Wu X, Yang S, Xu W et al. Comparative intermediate and long-term Results of Pedicle Screw and Hook Instrumentation in posterior Correction and Fusion of idiopathic Thoracic Scoliosis. J Spinal Disord Tech 2005; 23: 467–473

5.3.3 Osteotomien der Wirbelsäule

Ponte-Osteotomie, Smith-Petersen-Osteotomie

Akbar M, Wiedenhofer B. Correction of adolescent Kyphosis. What is the State of the Art? Der Orthopade 2011; 40: 682–689
Akbar M, Wiedenhofer B. Sagittal Deformity. Basic Principles of surgical Strategies. Der Orthopade 2011; 40: 661–671

Diab MG, Franzone JM, Vitale MG. The Role of posterior Spinal Osteotomies in pediatric Spinal Deformity Surgery: Indications and operative Technique. J Pediatr Orthop 2011; 31: S88–98
Enercan M, Ozturk C, Kahraman S et al. Osteotomies/Spinal Column Resections in adult Deformity. Eur Spine J 2013; 22 (Suppl 2): S254–S264
Wiedenhofer B, Furstenberg CH, Schroder K et al. Multiplan Correction of a 3D Deformity. Options and Relevance of optimizing the Thoracic Kyphosis in reconstructive Scoliosis Surgery. Der Orthopade 2011; 40: 672–681

Pedikelsubtraktionsosteotomie

Akbar M, Wiedenhofer B. Correction of adolescent Kyphosis. What is the State of the Art? Der Orthopade 2011; 40: 682–689
Akbar M, Wiedenhofer B. Sagittal Deformity. Basic Principles of surgical Strategies. Der Orthopade 2011; 40: 661–671
Charosky S, Guigui P, Blamoutier A et al. Complications and Risk Factors of primary adult Scoliosis Surgery: a Multicenter Study of 306 Patients. Spine 2012; 37: 693–700
Diab MG, Franzone JM, Vitale MG. The Role of posterior Spinal Osteotomies in pediatric Spinal Deformity Surgery: Indications and operative Technique. J Pediatr Orthop 2011; 31: S88–98
Enercan M, Ozturk C, Kahraman S et al. Osteotomies/Spinal Column Resections in adult Deformity. Eur Spine J 2013; 22 (Suppl 2): S254–S264
Lafage V, Schwab F, Vira S et al. Does vertebral Level of Pedicle Subtraction Osteotomy correlate with Degree of spinopelvic Parameter Correction? Journal of Neurosurgery Spine 2011; 14: 184–191
Schwab FJ, Patel A, Shaffrey CI et al. Sagittal Realignment failures following Pedicle Subtraction Osteotomy Surgery: are we doing enough? Clinical Article. Journal of Neurosurgery Spine 2012; 16: 539–546
Wiedenhofer B, Furstenberg CH, Schroder K et al. Multiplan Correction of a 3D Deformity. Options and Relevance of optimizing the Thoracic Kyphosis in reconstructive Scoliosis Surgery. Der Orthopade 2011; 40: 672–681

5.3.4 Ventrale Derotationsspondylodese

Bernhardt M, Bridwell KH. Segmental Analysis of the sagittal Plane Alignment of the normal Thoracic and Lumbar Spines and Thoracolumbar Junction. Spine (Phila Pa 1976) 1989; 14: 717–721
Berthonnaud E, Dimnet J, Roussouly P et al. Analysis of the sagittal Balance of the Spine and Pelvis using Shape and Orientation Parameters. J Spinal Disord Tech 2005; 18: 40–47
Boos N, Dolan LA, Weinstein SL. Long-term clinical and radiographic Results of Cotrel-Dubousset Instrumentation of right Thoracic adolescent idiopathic Scoliosis. Iowa Orthop J 2007; 27: 40–46
Boulay C, Tardieu C, Hecquet J et al. Sagittal Alignment of Spine and Pelvis regulated by pelvic Incidence: Standard Values and Prediction of Lordosis. Eur Spine J 2006; 15: 415–422
Bridwell KH, Betz R, Capelli AM et al. Sagittal plane Analysis in idiopathic Scoliosis Patients treated with Cotrel-Dubousset Instrumentation. Spine (Phila Pa 1976) 1990; 15: 921–926
Bridwell KH. Decision Making regarding Smith-Petersen vs. Pedicle Subtraction Osteotomy vs. vertebral Column rResection for Spinal Deformity. Spine (Phila Pa 1976) 2006; 31: S171–178
Bullmann V, Halm HF, Niemeyer T et al. Dual-rod Correction and Instrumentation of idiopathic Scoliosis with the Halm-Zielke Instrumentation. Spine (Phila Pa 1976) 2003; 28: 1306–1313
Cho KJ, Bridwell KH, Lenke LG et al. Comparison of Smith-Petersen versus Pedicle Subtraction Osteotomy for the Correction of fixed sagittal Imbalance. Spine (Phila Pa 1976) 2005; 30: 2030–2037, discussion 2038
Danielsson AJ, Nachemson AL. Back Pain and Function 23 Years after Fusion for adolescent idiopathic Scoliosis: a case-control Study – Part II. Spine (Phila Pa 1976) 2003; 28: E373–383
Danielsson AJ, Romberg K, Nachemson AL. Spinal Range of Motion, Muscle Endurance, and Back Pain and Function at least 20 Years after Fusion or Brace Treatment for adolescent idiopathic Scoliosis: a case-control Study. Spine (Phila Pa 1976) 2006; 31: 275–283
Denis F. The three Column Spine and its Significance in the Classification of acute Thoracolumbar Spinal Injuries. Spine (Phila Pa 1976) 1983; 8: 817–831

Diab MG, Franzone JM, Vitale MG. The Role of posterior Spinal Osteotomies in pediatric Spinal Deformity Surgery: Indications and operative Technique. J Pediatr Orthop 2011; 31: S88–98
Dubousset J. Three-dimensional Analysis of the scoliotic Deformity. In: Weinstein SL, ed. Pediatric Spine: Principles and Practice. New York: Raven Press; 1994
Gill JB, Levin A, Burd T et al. Corrective Osteotomies in Spine Surgery. J Bone Joint Surg Am 2008; 90: 2509–2520
Guo X, Chau WW, Chan YL et al. Relative anterior Spinal Overgrowth in adolescent idiopathic Scoliosis. Results of disproportionate endochondral-membranous Bone Growth. J Bone Joint Surg Br 2003; 85: 1026–1031
Halm H, Niemeyer T, Halm B et al. Halm-Zielke Instrumentation as primary stable Improvement of the Zielke-VDS in idiopathic Scoliosis. 1 to 4 Year Outcome of a prospective Study of 29 consecutive Patients. Orthopäde 2000; 29: 563–570
Helenius I, Remes V, Yrjonen T et al. Harrington and Cotrel-Dubousset Instrumentation in adolescent idiopathic Scoliosis. Long-term functional and radiographic Outcomes. J Bone Joint Surg Am 2003; 85-A: 2303–2309
Hu R, Mustard CA, Burns C. Epidemiology of incident Spinal Fracture in a complete Population. Spine (Phila Pa 1976) 1996; 21: 492–499
Jackson RP, McManus AC. Radiographic Analysis of sagittal plane Alignment and Balance in standing Volunteers and Patients with Low Back Pain matched for Age, Sex, and Size. A prospective controlled clinical Study. Spine (Phila Pa 1976) 1994; 19: 1611–1618
Kim HJ, Blanco JS, Widmann RF. Update on the Management of idiopathic Scoliosis. Curr Opin Pediatr 2009; 21: 55–64
Kim YJ, Lenke LG, Cho SK et al. Comparative Analysis of Pedicle Screw versus Hook Instrumentation in posterior Spinal Fusion of adolescent idiopathic Scoliosis. Spine (Phila Pa 1976) 2004; 29: 2040–2048
Kim YJ, Lenke LG, Bridwell KH et al. Prospective pulmonary Function Comparison following posterior segmental Spinal Instrumentation and Fusion of adolescent idiopathic Scoliosis: is there a Relationship between major Thoracic Curve Correction and pulmonary Function Test Improvement? Spine (Phila Pa 1976) 2007; 32: 2685–2693
Koller H, Zenner J, Hitzl W et al. The Morbidity of open Transthoracic Approach for anterior Scoliosis Correction. Spine (Phila Pa 1976) 2010; 35: E1586–1592
Lafage V, Schwab F, Patel A et al. Pelvic Tilt and Truncal Inclination: two Key radiographic Parameters in the Setting of Adults with Spinal Deformity. Spine (Phila Pa 1976) 2009; 34: E599–606
Lagrone MO, Bradford DS, Moe JH et al. Treatment of symptomatic Flatback after Spinal Fusion. J Bone Joint Surg Am 1988; 70: 569–580
Legaye J, Duval-Beaupere G, Hecquet J et al. Pelvic Incidence: a fundamental Pelvic Parameter for three-dimensional Regulation of Spinal sagittal Curves. Eur Spine J 1998; 7: 99–103
Lenke LG, Betz RR, Harms J et al. Adolescent idiopathic Scoliosis: a new Classification to determine extent of Spinal Arthrodesis. J Bone Joint Surg Am 2001; 83-A: 1169–1181
Liljenqvist U, Hackenberg L, Link T et al. Pullout Strength of Pedicle Screws versus Pedicle and laminar Hooks in the Thoracic Spine. Acta Orthop Belg 2001; 67: 157–163
Lonner BS, Auerbach JD, Boachie-Adjei O et al. Treatment of thoracic Scoliosis: are monoaxial Thoracic Pedicle Screws the best Form of Fixation for Correction? Spine (Phila Pa 1976) 2009; 34: 845–851
Lonner BS, Auerbach JD, Estreicher MB et al. Pulmonary Function changes after various anterior Approaches in the Treatment of adolescent idiopathic Scoliosis. J Spinal Disord Tech 2009; 22: 551–558
Lowenstein JE, Matsumoto H, Vitale MG et al. Coronal and sagittal plane Correction in adolescent idiopathic Scoliosis: a Comparison between all Pedicle Screw versus Hybrid Thoracic Hook lumbar Screw Constructs. Spine (Phila Pa 1976) 2007; 32: 448–452
Luk KD, Lee FB, Leong JC et al. The Effect on the lumbosacral Spine of long Spinal Fusion for idiopathic Scoliosis. A minimum 10-year Follow-up. Spine (Phila Pa 1976) 1987; 12: 996–1000
Luk KD, Vidyadhara S, Lu DS et al. Coupling between sagittal and frontal plane Deformity Correction in idiopathic Thoracic Scoliosis and its Relationship with postoperative sagittal Alignment. Spine (Phila Pa 1976) 2010; 35: 1158–1164
Mac-Thiong JM, Berthonnaud E, Dimar JR 2nd et al. Sagittal Alignment of the Spine and Pelvis during Growth. Spine (Phila Pa 1976) 2004; 29: 1642–1647

Mac-Thiong JM, Roussouly P, Berthonnaud E et al. Sagittal Parameters of global Spinal Balance: normative Values from a prospective Cohort of seven hundred nine Caucasian asymptomatic Adults. Spine (Phila Pa 1976) 2010; 35: E1193–1198
Muschik MT, Kimmich H, Demmel T. Comparison of anterior and posterior double-rod Instrumentation for Thoracic idiopathic Scoliosis: Results of 141 Patients. Eur Spine J 2006; 15: 1128–1138
Newton PO, Upasani VV, Lhamby J et al. Surgical Treatment of main Thoracic Scoliosis with Thoracoscopic anterior Instrumentation. A five-year Follow-up Study. J Bone Joint Surg Am 2008; 90: 2077–2089
Newton PO, Yaszay B, Upasani VV et al. Preservation of Thoracic Kyphosis is critical to maintain Lumbar Lordosis in the surgical Treatment of adolescent idiopathic Scoliosis. Spine (Phila Pa 1976) 2010; 35: 1365–1370
Oda I, Cunningham BW, Buckley RA et al. Does spinal kyphotic Deformity influence the biomechanical Characteristics of the adjacent Motion Segments? An in vivo Animal Model. Spine (Phila Pa 1976) 1999; 24: 2139–2146
Parent S, Odell T, Oka R et al. Does the Direction of Pedicle Screw Rotation affect the Biomechanics of direct transverse plane vertebral Derotation? Spine (Phila Pa 1976) 2008; 33: 1966–1969
Perez-Grueso FS, Fernandez-Baillo N, Arauz de Robles S et al. The Low Lumbar Spine below Cotrel-Dubousset Instrumentation: long-term Findings. Spine (Phila Pa 1976) 2000; 25: 2333–2341
Ponte A. Posterior Column Shortening for Scheuermann's Kyphosis – an innovative Technique. In: Haher TMA, ed. Surgical Techniques for the Spine. New York: Thieme; 2003: 107–113
Ritzman TF, Upasani VV, Pawelek JB et al. Return of Shoulder Girdle Function after anterior versus posterior adolescent idiopathic Scoliosis Surgery. Spine (Phila Pa 1976) 2008; 33: 2228–2235
Rose PS, Lenke LG, Bridwell KH et al. Pedicle Screw Instrumentation for adult idiopathic Scoliosis: an Improvement over Hook/Hybrid Fixation. Spine (Phila Pa 1976) 2009; 34: 852–857, Discussion 858
Schwab F, Lafage V, Patel A et al. Sagittal plane Considerations and the Pelvis in the adult Patient. Spine (Phila Pa 1976) 2009; 34: 1828–1833
Smith-Petersen MN, Aufranc OE. Osteotomy of the Spine for Correction of Flexion Deformity in Rheumatoid Arthritis. J Bone Joint Surg Am 1945; 27: 1–11
Soucacos PN, Zacharis K, Gelalis J et al. Assessment of Curve Progression in idiopathic Scoliosis. Eur Spine J 1998; 7: 270–277
Tis JE, O'Brien MF, Newton PO et al. Adolescent idiopathic Scoliosis treated with open instrumented anterior Spinal Fusion: five-year Follow-up. Spine (Phila Pa 1976) 2010; 35: 64–70
Wu X, Yang S, Xu W et al. Comparative intermediate and long-term Results of Pedicle Screw and Hook Instrumentation in posterior Correction and Fusion of idiopathic Thoracic Scoliosis. J Spinal Disord Tech 2005; 23: 467–473

5.3.5 Halo-Traktion

Lett RM, Palaka G, Bowtschko WP. Preoperative Skeletal Traction in Scoliosis. J Bone Joint Surg 1975; 57 A: 616
Wilcons C, MacCune GB. Cranial Nerve Injury from Halo-Traction. Clin Orthop 1977; 126: 106

5.4 Instabilitäten der Lendenwirbelsäule

5.4.1 Lumbale und lumbosakrale dorsolaterale Spondylodese

Schreiber A, Suezawa Y, Jacob HA. Preliminary Report of 40 Patients. Dorsal Spinal Fusion with a transpedicular Distraction and Compression System. Orthop Rev 1986; 15(1): 48–51
Wiltse LL, Batemann JG, Hutchinson RH et al. Paraspinal Sacrospinalis – Splitting Approach to the Lumbar Spine. J Bone Joint Surg1968; 50 A: 919–926
Wiltse LL, Spencer CW. New Uses and Refinements of the paraspinal Approach to the Lumbar Spine. Spine 1988; 13: 696
Wittenberg RH, Möller J, Krämer J. Ergebnisse nach dorsaler lumbosakraler Distraktionsspondylodese (LSDS) ohne Implantat beim voroperierten Rückenpatienten. Z Orthop 1990; 128: 27–31
Wittenberg RH, Krämer J. Implantatfreie, dorsale, lumbosakrale Distraktionsspondylodese. Operat Orthop Traumatol 1993; 5: 77–90

5.4.2 Lumbale interkorporelle Spondylodese

Bauer R, Kerschbaumer F, Poisel S. Operative Zugangswege in Orthopädie und Traumatologie. Stuttgart: Thieme; 1986
Dick W. Interkorporelle Spondylodese L 4/L 5 und L 5/S 1. Operat Orthop Traumatol 1989; 1: 43–51
Dick W. Ventrale monosegmentale Fusion L 5/S 1. In: Bauer R, Poisel S. Orthopädische Operationslehre. Band I, Wirbelsäule. Stuttgart: Thieme; 1991: 270–274
Krödel A. Mechanical Principles of compressive Interbody Fusion. Spine 1996; 21: 821–826
Mayer HM. The ALIF Concept. Eur Spine J 2000; 9(1): 35–43
Sachs S. Present Status of anterior Interbody Fusion in the lower Lumbar Spine. Orthop Clin N Am 1975; 6: 275–282
Tay BB, Berven S. Indications, Techniques and Complications of Lumbar Interbody Fusion. Semin Neurol 2002; 22(2): 221–230
Wiehert K, Wiechert K. Microsurgical anterior Approaches to the Lumbar Spine for Interbody Fusion and total Disc Replacement. Neurosurgery 2002; 51(5): 159–165

5.5 Diskusprolaps

5.5.1 Diskotomie an der Halswirbelsäule

Anderson DG, Albert TJ. Bone Grafting, Implants and Plating Options for anterior Cervical Fusions. Orthop Clin North Am 2002; 33(2): 317–328
Bailey RW, Badgley CE. Stabilisation of the Cervical Spine by anterior Fusion. J Bone Joint Surg 1960; 42 A: 565–624
Caspar W, Barbier DD, Klara PM. Anterior Cervical Fusion and Caspar Plate Stabilisation for Cervical Trauma. Neurosurg 1989; 25: 491–502
Cloward RD. Treatment of acute Fractures and Fracture Dislocations of Cervical Spine by vertebral Body Fusion. J Neurosurg 1961; 18: 205–209
Shoung HM, Lee LS. Anterior Metal Plate Fixation on the Treatment of unstable lower Cervical Spine Injuries. Acta neurochir 1989; 98: 55–59

5.5.2 Mikrodiskektomie an der Lendenwirbelsäule

Caspar W, Campbell B, Barbier DD et al. The Caspar microsurgical Discectomy and Comparison with a conventional Standard Lumbar Disc Procedure. Neurosurgery 1991; 28(1): 78–86, Discussion 86–87
Krämer J. Operation des lumbalen Bandscheibenvorfalles mit der Mikrotechnik. Z Orthop 1983; 121: 394
Krämer J. Die mikrochirurgische Operation beim lumbalen Bandscheibenvorfall. Operat Orthop Traumatol 1990; 2: 84–92
Silvers R. Microsurgical versus standard Lumbar Discectomy. Neurosurgery 1988; 22: 837
Wilson D. Microsurgical Lumbar Discotomy. Neurosurgery 1979; 4: 137
Zahrawi F. Microlumbar Discectomy. Spine 1988; 13: 358–359

5.6 Degenerative lumbale Spinalkanalstenose

Baumgartner H. Klinik der Spinalkanalstenose. Orthopäde 1993; 22: 211–213
Benini A. Ischias ohne Bandscheibenausfall: Die Stenose des lumbalen Wirbelkanals. Bern: Huber; 1976
Benoist M. The natural History of Lumbar degenerative Spinal Stenosis. Joint Bone Spine 2002; 69(5): 450–457
Delank KS, Eysel P, Zollner J et al. Unterschneidende Dekompression versus Laminektomie. Klinisches und radiologisches Ergebnis einer prospektiv randomisierten Studie. Orthopäde 2002; 31(11): 1048–1056
Grauer W. Die radiologische Abklärung der degenerativen lumbalen Stenose. Orthopäde 1993; 22: 214–222
Grob D, Humke T, Dvorak J. Die Bedeutung der simultanen Fusion bei operativer Dekompression der lumbalen Spinalkanalstenose. Orthopäde 1993; 22: 243–249
Guigui P, Cardinne L, Rillardon L et al. Per- and postoperative Complications of surgical Treatment of Lumbar Spinal Stenosis: prospective Analysis of 306 Patients. Rev Chir Orthop Reparatrice Appar Mot 2002; 88(7): 669–677
Reulen HJ. Stenose im lumbalen Wirbelkanal. In: Bauer R, Kerschbaumer F, Poisel S, Hrsg. Orthopädische Operationslehre. Band 1, Wirbelsäule. Stuttgart: Thieme 1991: 340–346

6 Becken

6.1 Verletzungen des Beckenrings

6.1.1 Symphysensprengung

Culemann U, Oestern HJ, Pohlemann T. Aktuelle Behandlung der Beckenringfraktur. Unfallchirurg 2014; 117: 145-161. DOI: 10.1007/s113-014-2558-7
Meißner A, Fell M, Wilk R et al. Vergleich interner Stabilisierungsverfahren für die Symphyse im multidirektionalen dynamischen Gangbedingungssimulator. Unfallchirurg 1998; 101: 18–25
Pohlemann T, Krettek C, Hoffmann R et al. Biomechanischer Vergleich verschiedener Notfallstabilisierungsmaßnahmen am Beckenring. Unfallchirurg 1994; 97: 503–510
Stocks G, Gablel G, Noble P et al. Anterior and posterior infernal Fixation of vertical Shear Fractures of the Pelvis. J Orthop Res 1991; 9: 237–245
Vécsei V. Ergebnisse biomechanischer Untersuchungen verschiedener F.e.-Montagen am Becken. Aktuel Traumatol 1988; 18: 261–264
Walheim GG, Selvik G. Mobility of the Pubic Symphysis. In vivo Measurements with an electromechanic Method and a Roentgen Stereophotogrammetric Method. Clin Orthop Relat Res 1984; 191: 129–135

6.1.2 Iliosakralfugensprengung

Dabezies E, Mollet C, Murphy C et al. Stabilisation of Sacroiliac Joint Disruption with threated Compression Rods. Clin Orthop 1989; 246: 165–171
Ebraheim NA, Xu R, Biyani A et al. Morphologic Considerations of the first sacral Pedicle for iliosacral Screw Placement. Spine 1997; 22: 841–846
French B, Tornetta P. Transiliosakrale Osteosynthese bei instabilen Verletzungen des hinteren Beckenringes. Operat Orthop Traumatol 2002; 14: 29–49
Hofmann D. Vergleichende Untersuchung verschiedener Stabilisierungsverfahren bei der Luxation der Beckenhalbgelenke. Unfallchirurgie 1991; 17: 247–252
Keating JF, Werier J, Blachut P et al. Early Fixation of the vertically unstable Pelvis: the Role of iliosacral Screw Fixation of the posterior Lesion. J Orthop Trauma 1999; 13: 107–113
Matta JM, Saucedo T. Internal Fixation of Pelvic Ring Fractures. Clin Orthop 1989: 83–97
Matta JM, Tornetta P III. Internal Fixation of unstable Pelvic Ring Injuries. Clin Orthop 1996: 129–140
Pohlemann T, Krettek C, Hoffmann R et al. Biomechanischer Vergleich verschiedener Notfallstabilisierungsmaßnahmen am Beckenring. Unfallchirurg 1994; 97: 503–510
Remiger A, Engelhardt P. Percutaneous iliosacral Screw Fixation of vertical unstable Pelvic Ring Fractures. Swiss Surg 1996; 2: 259–263
Routt MLC, Meier MC, Kregor PJ et al. Percutaneous iliosacral Screws with the Patient Supine-Technique. Operat Tech Orthop 1993; 3: 35–45

6.1.3 Komplexverletzungen

Bosch U, Pohlemann T, Haas N et al. Klassifikation und Management des komplexen Beckentraumas. Unfallchirurg 1992; 95: 189–196
Burgess AR, Eastridge BJ, Young JWR et al. Pelvic Ring Disruptions: effective Classification System and Treatment Protocols. J Trauma 1990; 30: 848–856
Failinger MS, McGanity PLJ. Unstable Fractures of the Pelvic Ring. J Bone Joint Surg Am 1992; 74: 781–791
Goldstein A, Phillips T, Sclafani S. Early open Reduction and internal Fixation of the disrupted Pelvic Ring. J Trauma 1986; 26: 325–333
Kellam J, McMurty R, Paley D et al. The unstable Pelvic Fracture: operative Treatment. Orthop Clin North Am 1987; 18: 25–41
Matta JM, Tornetta P III. Internal Fixation of unstable Pelvic Ring Injuries. Clin Orthop 1996; 329: 129–140
Moed BR, Karges DE. Techniques for Reduction and Fixation of Pelvic Ring Disruptions through the posterior Approach. Clin Orthop 1996; 329: 102–114
Moreno C, Moore EE, Rosenberger A et al. Haemorrhage associated with major Pelvic Fracture: a multispeciality Challenge. J Trauma 1986; 26: 987–993
Mostafavi HR, Tornetta P III. Radiologic Evaluation of the Pelvis. Clin Orthop 1996; 329: 6–14
Pohlemann T, Krettek C, Hoffmann R et al. Biomechanischer Vergleich verschiedener Notfallstabilisierungsmaßnahmen am Beckenring. Unfallchirurg 1994; 97: 503–510

Rommens PM, Vanderschot PM, de Boodt P et al. Surgical Management of Pelvic Ring Disruptions. Indications, Techniques and functional Results. Unfallchirurg 1992; 95: 455–462
Siegmeth A, Müllner Th, Kukla Ch et al. Begleitverletzungen beim schweren Beckentrauma. Unfallchirurg 2000; 103: 572–581
Tscherne H. Unfallchirurgie. Becken und Acetabulum. Berlin: Springer; 1998

6.2 Azetabulumfrakturen

Daurka JS, Pastides PS, Lewis A et al. Acetabular fractures in patients aged & gt; 55 years: A systematic review of the literature. Bone Joint J. 2014 Feb; 96-B(2): 157-163. doi: 10.1302/0301-620X.96B2.32979
Letournel E, Judet R. Fractures of the Acetabulum. 2nd edn. Berlin: Springer; 1993
Matta JM. Fractures of the Acetabulum: Accuracy of Reduction and clinical Results in Patients managed operatively within three Weeks after the Injury. J Bone Joint Surg Am 1996; 78: 1632–1645
Moed BR, McMichael JC. Outcomes of posterior wall fractures of the acetabulum. J Bone Joint Surg Am. 2007 Jun; 89(6): 1170-1176
Orthopedic Trauma Association Committee for Coding and Classification: Fracture and Dislocation Compendium. J Orthop Trauma. 1996;10 Suppl 1:v-ix, 1-154.
Sierra RJ, Mabry TM, Sems SA et al. Acetabular fractures: The role of total hip replacement. Bone Joint J. 2013 Nov; 95-B(11 Suppl A): 11-16. doi: 10.1302/0301-620X.95B11.32897
Tscherne H. Unfallchirurgie. Becken und Acetabulum. Berlin: Springer; 1998

6.3 Hüftdysplasie oder -luxation

6.3.1 Operation nach Salter

Böhm P, Brzuske A. Salter innominate Osteotomy for the Treatment of developmental Dysplasia of the Hip in Children: Results of seventy-three consecutive Osteotomies after twenty-six to thirty-five Years of Follow-up. J Bone Joint Surg 2002; 84-A(2): 178–186
López-Carreño E, Carillo H, Gutiérrez M. Dega versus Salter Osteotomy for the Treatment of developmental Dysplasia of the Hip. J Pediatr Orthop B 2008; 17(5): 213–221
Mäder G, Brunner C, Ganz R. 10 Jahresresultate der Beckenosteotomie nach Salter. Orthopäde 1979; 8: 30–35
Salter RB, Dubos JP. The first 15 Years personal Experience with innominate Osteotomy in the Treatment of congenital Dislocation and Subluxation of the Hip. Clin Orthop 1974; 98: 72–103
Salter RB. Innominate Osteotomy in the Treatment of congenital Dislocation and Subluxation of the Hip. J Bone Joint Surg 1991; 43 B: 518–539
Thomas SR, Wedge JH, Salter RB. Outcome at forty-five Years after open Reduction and innominate Osteotomy for late-presenting developmental Dislocation of the Hip. J Bone Joint Surg Am 2007; 89(11): 2341–2350

6.3.2 Operation nach Dega

López-Carreño E, Carillo H, Gutiérrez M. Dega versus Salter Osteotomy for the Treatment of developmental Dysplasia of the Hip. J Pediatr Orthop B 2008; 17(5): 213–221
Domzalski M, Synder M, Drobniewski M. Long-term Outcome of surgical Treatment of developmental Dyplasia of the Hip using the Dega and Salter Method of Pelvic Osteotomy with simultaneous intratrochanteric femoral Osteotomy. Ortop Traumatol Rehabil 2004; 6(1): 44–50
Aksoy C, Yilgor C, Demirkiran G et al. Evaluation of Acetabular Development after Dega Acetabuloplasty in developmental Dysplasia of the Hip. J Pediatr Orthop B 2013; 22(2): 91–95
Sales de Gauzy J. Pelvic Reorientation Osteotomies and Acetabuloplasties in Children. Surgical Technique. Orthop Traumatol Surg Res 2010; 96(7): 793–799
Ruszkowski K, Pucher A. Simultaneous open Reduction and Dega Transiliac Osteotomy for developmental Dislocation of the Hip in Children under 24 Months of Age. J Pediatr Orthop 2005; 25(5): 695–701

6.3.3 Offene Hüftgelenkreposition

Ludloff K. Die Erfahrungen bei der blutigen Reposition der angeborenen Hüftluxation mit einem vorderen Schnitt. Zbl Chir 1914; 21: 156–160

Tönnis D. et al. Hüftluxation und Hüftkopfnekrose. Eine Sammelstatistik des Arbeitskreises für Hüftdysplasie. Bücherei des Orthopäden, Bd. 21. Stuttgart: Enke; 1978

Tönnis D. Die angeborene Hüftdysplasie und Hüftluxation im Kindes- und Erwachsenenalter. Berlin: Springer; 1984

7 Hüfte und Oberschenkel

7.1 Frakturen des proximalen Femurs

Keine Literaturangaben nötig.

7.2 Femurschaftfrakturen

Keine Literaturangaben nötig.

7.3 Intraartikuläre distale Femurfraktur

Baumgartl F, Hohenbleicher R, Seling K. Brüche im distalen Teil des Oberschenkelknochens bei Erwachsenen. In: Baumgartl F, Kremer K, Schreiber HW. Spezielle Chirurgie für die Praxis. Band III, Teil 2. Stuttgart: Thieme; 1980: 445–458

Müller ME, Allgöwer M, Schneider R et al. Manual der Osteosynthese. 3. Aufl. Berlin: Springer; 1992: 548–552

7.4 Hüftkopfnekrosen im Erwachsenenalter

Castro FP Jr, Barrack RL. Core Decompression and conservative Treatment for avascular Necrosis of the femoral Head: a Meta-Analysis. Am J Orthop 2000; 29(3): 187–194

Ficat P, Arlet J, Vidal R et al. Therapeutic Results of Drill Biopsy in primary Osteonecrosis of the femoral Head (100 Cases). Rev Rhum Mal Osteoartic 1971; 38(4): 269–276

Fukushima W, Yamamoto T, Takahashi S et al. The Effect of Alcohol Intake and the Use of oral Corticosteroids on the Risk of idiopathic Osteonecrosis of the femoral Head: a case-control Study in Japan. Bone Joint J 2013; 95-B(3): 320–325

Jergesen HE, Khan AS. The natural History of untreated asymptomatic Hips in Patients who have non-traumatic Osteonecrosis. J Bone Joint Surg Am 1997; 79(3): 359–363

Lu-Yao GL, Keller RB, Littenberg B et al. Outcomes after displaced Fractures of the Femoral Neck. A Meta-Analysis of one hundred and six published Reports. J Bone Joint Surg Am 1994; 76(1): 15–25

Mont MA, Carbone JJ, Fairbank AC. Core Decompression versus nonoperative Management for Osteonecrosis of the Hip. Clin Orthop Relat Res 1996; (324): 169–178

Mont MA, Zywiel MG, Marker DR et al. The natural History of untreated asymptomatic Osteonecrosis of the Femoral Head: a systematic Literature Review. J Bone Joint Surg Am 2010; 92(12): 2165–2170

Seamon J, Keller T, Saleh J et al. The Pathogenesis of nontraumatic Osteonecrosis. Arthritis 2012: 601–763

Seyler TM, Marker DR, Ulrich SD et al. Nonvascularized Bone Grafting defers Joint Arthroplasty in Hip Osteonecrosis. Clin Orthop Relat Res 2008; 466(5): 1125–1132

Vande Berg BC, Lecouvet FE, Koutaissoff S et al. Bone Marrow Edema of the Femoral Head and transient Osteoporosis of the Hip. Eur J Radiol 2008; 67(1): 68–77

7.5 Hüftendoprothetik

7.5.1 OP-Planung und Offset-Rekonstruktion

Aldinger PR, Jung AW, Pritsch M et al. Uncemented grit-blasted straight tapered Titanium Stems in Patients younger than fifty-five Years of Age. Fifteen to twenty Year Results. J Bone Joint Surg Am 2009; 91(6): 1432–1439, DOI: 91/6/1432 [pii] 10.2106/JBJS.H.00297

Asayama I, Chamnongkich S, Simpson KJ et al. (2005) Reconstructed Hip Joint Position and Abductor Muscle Strength after total Hip Arthroplasty. J Arthroplasty 2005; 20(4): 414–420, DOI: S0883-5403(05)00022-7 [pii] 10.1016/j.arth.2004.01.016

Bonnin MP, Archbold PH, Basiglini L et al. Should the Acetabular Cup be medialised in total Hip Arthroplasty. Hip Int 2011; 21(4): 428–435, DOI: FA7C7437-DE24-4B62-AB08-77B9729BBD20 [pii] 10.5301/HIP.2011.8582

Bonnin MP, Archbold PH, Basiglini L et al. Do we medialise the Hip Centre of Rotation in total Hip Arthroplasty? Influence of Acetabular Offset and surgical Technique. Hip Int 2012; 22(4): 371–378, DOI: DFF6B08A-3EAA-458A-89B0-F125E97CAE6C [pii] 10.5301/HIP.2012.9350

Bozic KJ, Freiberg AA, Harris WH. The high Hip Center. Clin Orthop Relat Res 2004; 420: 101–105, DOI: 00003086-200403000-00014 [pii]

Callaghan JJ, Fulghum CS, Glisson RR et al. The Effect of Femoral Stem Geometry on Interface Motion in uncemented porous-coated total Hip Prostheses. Comparison of straight-stem and curved-stem Designs. J Bone Joint Surg Am 1992; 74(6): 839–848

Cameron HU, Pilliar RM, MacNab I. The Effect of Movement on the Bonding of porous Metal to Bone. J Biomed Mater Res 1973; 7(4): 301–311, DOI: 10.1002/jbm.820070404

Charles MN, Bourne RB, Davey JR et al. Soft-tissue Balancing of the Hip: the Role of Femoral Offset Restoration. Instr Course Lect 2005; 54: 131–141

Decking R, Puhl W, Simon U et al. Changes in Strain Distribution of loaded proximal Femora caused by different Types of cementless Femoral Stems. Clin Biomech (Bristol, Avon) 2006; 21(5): 495–501, DOI: S0268-0033(05)00310-4 [pii] 10.1016/j.clinbiomech.2005.12.011

Doehring TC, Rubash HE, Shelley FJ et al. Effect of superior and superolateral Relocations of the Hip Center on Hip Joint Forces. An experimental and analytical Analysis. J Arthroplasty 1996; 11(6): 693–703, DOI: S0883-5403(96)80008-8 [pii]

Dorr LD, Faugere MC, Mackel AM et al. Structural and cellular Assessment of Bone Quality of proximal Femur. Bone 1993; 14(3): 231–242, DOI: 8756-3282(93)90146-2 [pii]

Fackler CD, Poss R. Dislocation in total Hip Arthroplasties. Clin Orthop Relat Res 1980; 151: 169–178

Franken M, Grimm B, Heyligers I. A Comparison of four Systems for Calibration when Templating for total Hip Replacement with digital Radiography. J Bone Joint Surg Br 2010; 92(1): 136–141, DOI: 92-B/1/136 [pii] 10.1302/0301-620X.92B1.22257

Goodman SB, Adler SJ, Fyhrie DP et al. The Acetabular Teardrop and its Relevance to Acetabular Migration. Clin Orthop Relat Res 1988; 236: 199–204

Haddad RJ Jr, Cook SD, Thomas KA. Biological Fixation of porous-coated Implants. J Bone Joint Surg Am 1987; 9: 1459–1466

Hodge WA, Andriacchi TP, Galante JO. A Relationship between Stem Orientation and Function following total Hip Arthroplasty. J Arthroplasty 1991; 6(3): 229–235

Iorio R, Siegel J, Specht LM et al. A Comparison of acetate vs digital Templating for preoperative Planning of total Hip Arthroplasty: is digital Templating accurate and safe? J Arthroplasty 2009; 24(2): 175–179, DOI: S0883-5403(07)00699-7 [pii] 10.1016/j.arth.2007.11.019

Lewinnek GE, Lewis JL, Tarr R et al. Dislocations after total Hip Replacement Arthroplasties. J Bone Joint Surg Am 1978; 60(2): 217–220

Little NJ, Busch CA, Gallagher JA et al. Acetabular Polyethylene Wear and Acetabular Inclination and Femoral Offset. Clin Orthop Relat Res 2009; 467(11): 2895–2900, DOI: 10.1007/s11999-009-0845-3

McGrory BJ, Morrey BF, Cahalan TD et al. Effect of Femoral Offset on Range of Motion and Abductor Muscle Strength after total Hip Arthroplasty. J Bone Joint Surg Br 1995; 77(6): 865–869

Malik A, Maheshwari A, Dorr LD. Impingement with total Hip Replacement. J Bone Joint Surg Am 2007; 89(8): 1832–1842, DOI: 89/8/1832 [pii] 10.2106/JBJS.F.01313

Meermans G, Malik A, Witt J et al. Preoperative radiographic Assessment of limb-length Discrepancy in total Hip Arthroplasty. Clin Orthop Relat Res 2011; 469(6): 1677–1682, DOI: 10.1007/s11999-010-1588-x

Merle C, Waldstein W, Pegg E et al. Femoral Offset is underestimated on anteroposterior Radiographs of the Pelvis but accurately assessed on anteroposterior Radiographs of the Hip. J Bone Joint Surg Br 2012; 94(4): 477–482, DOI: 94-B/4/477 [pii] 10.1302/0301-620X.94B4.28067

Noble PC, Alexander JW, Lindahl LJ et al. The anatomic Basis of Femoral Component dDesign. Clin Orthop Relat Res 1988; 235: 148–165

Pilliar RM, Lee JM, Maniatopoulos C. Observations on the Effect of Movement on Bone Ingrowth into porous-surfaced Implants. Clin Orthop Relat Res 1986; 208: 108–113

7.5.2 Operative Zugangswege (inklusive MIS-Zugänge)

Keine Literaturangaben nötig.

7.5.3 Zementierte Endoprothetik

Breusch SJ. Cementing Technique in total Hip Arthroplasty – Factors influencing Survival of Femoral Stems. In: Walenkamp GHIM, Murray DW, eds. Bone Cements and Cementing Technique. Heidelberg: Springer; 2001: 53–80
Breusch SJ, Lukoschek M, Kreutzer J et al. Dependency of Cement Mantle Thickness on Stem Design and Centralizer. J Arthroplasty 2001; 16/5: 648–657
Breusch S, Malchau H. The well cemented total Hip Arthroplasty. Theory and Practice. Heidelberg: Springer; 2005
Clement ND, Biant LC, Breusch SJ. Total Hip Arthroplasty: to cement or not to cement the Acetabular Socket? A critical Review of the Literature. Arch Orthop Trauma Surg 2012; 132(3): 411–427
Herberts P, Malchau H. How Outcome Studies have changed total Hip Arthroplasty Practices in Sweden. Clin Orthop 1997; 344: 44–60
Majkowski RS, Miles AW, Bannister GC et al. Bone Surface Preparation in cemented Joint Replacement. J Bone Joint Surg 1993; 75-B: 459–463
Neumann L, Freund KG, Sorensen KH. Long-term Results of Charnley total Hip Replacement. Review of 92 Patients at 15 to 20 Years. J Bone Joint Surg 1994; 76 B: 245–251
Older J. The Charnley L. F. A. at 25 Years with a world-wide Review. In: A.C.O.R.A. Group, eds. Proceeding of the International Symposium: Charnley total Hip Arthroplasty "33 Years of worldwide Experience". Lyon; 1995
Schulte KR, Callaghan JJ, Kelley SS et al. The Outcome of Charnley total Hip Arthroplasty with Cement after a minimum twenty Year Follow-up. The Results of one Surgeon. J Bone Joint Surg 1993; 75 A: 961–975

7.5.4 Zementfreie Endoprothetik

Aldinger PR, Breusch SJ, Lukoschek M et al. 10–15 Year Results of the CLS uncemented Femoral Component. JBJS-B 2003
Breusch SJ, Aldinger P, Thomsen M et al. Verankerungsprinzipien in der Hüftendoprothetik: Teil I, Prothesenstiel. Unfallchirurg 2000; 103: 918–931
Breusch SJ, Aldinger P, Thomsen M et al. Verankerungsprinzipien in der Hüftendoprothetik: Teil II, Prothesenstiel. Unfallchirurg 2000; 103: 1017–1031
Clement ND, Biant LC, Breusch SJ. Total Hip Arthroplasty: to cement or not to cement the Acetabular Socket? A critical Review of the Literature. Arch Orthop Trauma Surg 2012; 132(3): 411–427
Eingartner C, Volkmann R, Winter E et al. Results of an uncemented straight Femoral Shaft Prosthesis after 9 Years of Follow-up. J Arthroplasty 2000; 15-4: 440–447
Herberts P, Malchau H. How Outcome Studies have changed total Hip Arthroplasty Practices in Sweden. Clin Orthop 1997; 344: 44–60
Macpherson GJ, Breusch SJ. Metal-on-metal Hip Resurfacing: a critical Review. Arch Orthop Trauma Surg 2011; 131(1): 101–110
Smith AJ, Dieppe P, Howard PW et al. National Joint Registry for England and Wales. Failure Rates of metal-on-metal Hip Resurfacings: Analysis of Data from the National Joint Registry for England and Wales. Lancet 2012; 380(9855): 1759–1766
Zenz P, Pospisil C, Fertschak W et al. 10 Years of cementless Implantation of total Hip Endoprothesis using Zweymüller's Stem. Z Orthop Ihre Grenzgeb 1995; 133-6: 558–561

7.5.5 Kurzschaftendoprothetik

Babisch J. Möglichkeiten der patientenindividuellen Hüftgelenkrekonstruktion und Knochenrekonstruktion bei Kurzschaftprothesen. In: Jerosch J, Hrsg. Kurzschaftprothesen. Köln: Deutscher Ärzteverlag; 2013: 193–227
Jerosch J. Ist kürzer wirklich besser? Philosophie der Kurzschaftendoprothesen. Orthopäde 2011; 40: 1075–1083
Jerosch J, Hrsg. Kurzschaftprothesen. Köln: Deutscher Ärzteverlag; 2013
Pfeil J, Siebert W, Grieshaber HM. Optimys. In: Jerosch J, Hrsg. Kurzschaftprothesen. Köln: Deutscher Ärzteverlag; 2013: 23–40

7.5.6 Revisionen

Barrack RL, Harris WH. The Value of Aspiration of the Hip Joint before Revision total Hip Arthroplasty. J Bone Joint Surg 1993; 75 A: 66–76
Engelbrecht DJ, Weber FA, Sweet MB et al. Long-term Results of Revision total Hip Arthroplasty. J Bone Joint Surg 1990; 72 B: 41–45
Hultmark P, Karrholm J, Stromberg C et al. Cemented first-time Revisions of the Femoral Component: Prospective 7 to 13 Years' Follow-up using second-generation and third-generation Technique. J Arthroplasty 2000; 15-5: 551–561
Lawrence JM, Engb CA, Macalino GE et al. Outcome of Revision Hip Arthroplasty done without Cement. J Bone Joint Surg 1994; 76 A: 965–973
Lieberman JR, Moeckel BH, Evans BG et al. Cement-within-Cement Revision Hip Arthroplasty. J Bone Joint Surg 1993; 75 B: 869–871
Wagner H. Revisionsprothese für das Hüftgelenk. Orthopäde 1989; 18: 438–453

7.6 Femoroazetabuläres Impingement (FAI)

Ayeni OR, Wong I, Chien T et al. Surgical Indications for arthroscopic Management of Femoroacetabular Impingement. Arthroscopy 2012; 28: 1170–1179
Beck M, Kalhor M, Leunig M et al. Hip Morphology Influences the Pattern of Damage to the Acetabular Cartilage: Femoroacetabular Impingement as a Cause of early Osteoarthritis of the Hip. J Bone Joint Surg (Br) 2005; 87: 1012–1018
Botser IB, Smith TW Jr, Nasser R et al. Open surgical Dislocation versus Arthroscopy for Femoroacetabular Impingement: a Comparison of clinical Outcomes. Arthroscopy 2011; 27: 270–278
Dienst M, Kohn D. Arthroscopic Treatment of Femoroacetabular Impingement. Technique and Results. Orthopade 2009; 38: 429–443
Ganz R, Gill TJ, Gautier E et al. Surgical Dislocation of the adult Hip – a Technique with full Access to the Femoral Head and Acetabulum without the Risk of avascular Necrosis. J Bone Joint Surg Br 2001; 83(8): 1119–1124
Gautier E, Ganz K, Krügel N et al. Anatomy of the medial Femoral Circumflex Artery and its surgical Implications. J Bone Joint Surg Br 2000; 82(5): 679–683
Naal FD, Miozzari HH, Schär M et al. Midterm Results of surgical Hip Dislocation for the Treatment of Femoroacetabular Impingement. Am J Sports Med 2012; 40(7): 1501–1510
Nötzli HP, Siebenrock KA, Hempfing A et al. Perfusion of the Femoral Head during surgical Dislocation of the Hip. Monitoring by Laser Doppler Flowmetry. J Bone Joint Surg Br 2002; 84(2): 300–304
Matsuda DK, Carlisle JC, Arthurs SC et al. Comparative systematic Review of the open Dislocation, mini-open and arthroscopic Surgeries for Femoroacetabular Impingement. Arthroscopy 2011; 27: 252–269
Sink EL, Kim YJ. Femoroacetabular Impingement: current clinical Evidence. J Pediatr Orthop 2012; 32 (Suppl 2): S166–171
Zingg PO, Ulbrich EJ, Buehler TC et al. Surgical Hip Dislocation versus Hip Arthroscopy for Femoroacetabular Impingement: clinical and morphological short-term Results. Arch Orthop Trauma Surg 2013; 133(1): 69–79

8 Kniegelenk

8.1 Meniskusläsion

Ayeni O, Peterson D, Chan K et al. Suture repair versus arrow repair for symptomatic meniscus tears of the knee: a systematic review. J Knee Surg 2012; 25: 397–402
Barber FA, Bava ED. Meniscal repair: the newest fixators. Sports Med Arthrosc 2012; 20: 95–100
Driscoll MD, Robin BN, Horie M et al. Marrow stimulation improves meniscal healing at early endpoints in a rabbit meniscal injury model. Arthroscopy 2013; 29: 113–121
Glinz W. Postoperative Nachbehandlung und Frühverlauf nach arthroskopischer Meniskusresektion. Arthroskopie 1991; 4: 169–174
Grant JA, Wilde J, Miller BS et al. Comparison of inside-out and all-inside techniques for the repair of isolated meniscal tears: a systematic review. Am J Sports Med 2012; 40: 459–468
Howell JR, Handoll HH. Surgical treatment for meniscal injuries of the knee in adults. Cochrane Database Syst Rev 2009; 21: CD001353
Jung YH, Choi NH, Oh JS et al. All-inside repair for a root tear of the medial meniscus using a suture anchor. Am J Sports Med 2012; 40:1406–1411

Longo UG, Campi S, Romeo G et al. Biological strategies to enhance healing of the avascular area of the meniscus. Stem Cells Int 2012; doi: 10.1155/2012/528359
Nepple JJ, Dunn WR, Wright RW. Meniscal repair outcomes at greater than five years: a systematic literature review and meta-analysis. J Bone Joint Surg Am 2012; 94: 2222–2227
Paxton ES, Stock MV, Brophy RH. Meniscal repair versus partial meniscectomy: a systematic review comparing reoperation rates and clinical outcomes. Arthroscopy 2011; 27: 1275–1288
Pereira H, Frias AM, Oliveira JM et al. Tissue engineering and regenerative medicine strategies in meniscus lesions.Arthroscopy 2011; 27: 1706–1719
Pujol N, Barbier O, Boisrenoult P et al. Amount of meniscal resection after failed meniscal repair. Am J Sports Med 2011; 39:1648–1652
Salata MJ, Gibbs AE, Sekiya JK.A systematic review of clinical outcomes in patients undergoing meniscectomy. Am J Sports Med 2010; 38:1907–1916
Schimmer RC, Brülhart KB, Durft C et al. 14 Jahre arthroskopische Meniskuschirurgie, Verlauf nach über 10 Jahre zurückliegenden Operationen. Arthroskopie 1993; 6: 228–233
Tengrootenhuysen M, Meermans G, Pittoors K, van Riet R et al. Long-term outcome after meniscal repair. Knee Surg Sports Traumatol Arthrosc 2011; 19: 236–241

8.2 Vorderes Kreuzband

Ahlén M, Lidén M. A comparison of the clinical outcome after anterior cruciate ligament reconstruction using a hamstring tendon autograft with special emphasis on the timing of the reconstruction. Knee Surg Sports Traumatol Arthrosc 2011; 19: 488–494
Alentorn-Geli E, Lajara F, Samitier G et al. The transtibial versus the anteromedial portal technique in the arthroscopic bone-patellar tendon-bone anterior cruciate ligament reconstruction. Knee Surg Sports Traumatol Arthrosc 2010; 18: 1013–1037
Brückner H. Eine neue Methode der Kreuzbandplastik. Chirurg 1966; 37: 413–414
Cooley VJ, Deffner KT, Rosenberg TD. Quadrupled semitendinosus anterior cruciate ligament reconstruction: 5-year results in patients without meniscus loss. Arthroscopy 2001; 17: 795
Gadikota HR, Sim JA, Hosseini A et al. The relationship between femoral tunnels created by the transtibial, anteromedial portal, and outside-in techniques and the anterior cruciate ligament footprint. Am J Sports Med. 2012; 40(4): 882–888
Gifstad T, Sole A, Strand T et al. Long-term follow-up of patellar tendon grafts or hamstring tendon grafts in endoscopic ACL reconstructions. Knee Surg Sports Traumatol Arthrosc 2013; 21: 576–583
Jakob RP, Stäubli HU. Kniegelenk und Kreuzbänder. Berlin: Springer; 1990
Lobenhoffer P, Tscherne H. Die Ruptur des vorderen Kreuzbandes – heutiger Behandlungsstandard. Unfallchirurg 1993; 96: 150–168
Mohtadi NG, Chan DS, Dainty KN et al. Patellar tendon versus hamstring tendon autograft for anterior cruciate ligament rupture in adults. Cochrane Database Syst Rev 2011; 9: CD005960. doi: 10.1002/14651858
Moksnes H, Engebretsen L, Risberg MA.The current evidence for treatment of ACL injuries in children is low: a systematic review. J Bone Joint Surg Am 2012; 94: 1112–1119
Peccin MS, Almeida GJ, Amaro JT et al. Interventions for treating posterior cruciate ligament injuries of the knee in adults. Cochrane Database Syst Rev 2012; 3: CD002939. doi: 10.1002/14651858
Rosenberg J, Deffner K. ACL reconstruction: Semitendinosus tendon is the graft of choice. Orthopedics 1997; 20: 396
Scherer MA. Experimentelle und klinische Untersuchung zur autogenen Rekonstruktion des vorderen Kreuzbandes. Habil. München; 1992.
Streich NA, Reichenbacher S, Barié A et al. Long-term outcome of anterior cruciate ligament reconstruction with an autologous four-strand semitendinosus tendon autograft. Int Orthop 2013; 37: 279–284
Strobel MJ, Schulz MS. VKB-Rekonstruktion mit dem Semitendinosus-Grazilis-Sehnentransplantat. Orthopäde 2002; 31: 758–769
Tiamklang T, Sumanont S, Foocharoen T et al. Double-bundle versus single-bundle reconstruction for anterior cruciate ligament rupture in adults. Cochrane Database Syst Rev 2012; 11: CD008413. doi: 10.1002/14651858
Tompkins M, Milewski MD, Brockmeier SF et al. Anatomic femoral tunnel drilling in anterior cruciate ligament reconstruction: use of an accessory medial portal versus traditional transtibial drilling. Am J Sports Med 2012; 40: 1313–1321

8.3 Hinteres Kreuzband

Chen CH, Chen WR, Shih CH. Arthroscopic reconstruction of the posterior cruciate ligament: a comparison of quadriceps tendon autograft and quadruple hamstring tendon graft. Arthroscopy 2002; 18: 603–612
Fanelli GC, Edson CJ. Surgical treatment of combined PCL-ACL medial and lateral side injuries (global laxity): surgical technique and 2- to 18-year results. J Knee Surg 2012; 25: 307–316
Hammoud S, Reinhardt KR, Marx RG. Outcomes of posterior cruciate ligament treatment: a review of the evidence. Sports Med Arthrosc 2010; 18: 280–291
Levy BA, Stuart MJ. Treatment of PCL, ACL, and lateral-side knee injuries: acute and chronic. J Knee Surg 2012; 25: 295–305
Lobenhoffer P. Chronische Instabilitäten nach hinterer Kreuzbandverletzung. Taktik, Technik und Ergebnisse. Unfallchirurg 1999; 102: 824–838
May JH, Gillette BP, Morgan JA et al. Transtibial versus inlay posterior cruciate ligament reconstruction: an evidence-based systematic review. J Knee Surg 2010; 23: 73–79
Panchal HB, Sekiya JK. Open tibial inlay versus arthroscopic transtibial posterior cruciate ligament reconstructions. Arthroscopy 2011; 27: 1289–1295
Petersen W, Zantop T. Arthroscopic reconstruction of the anterolateral bundle of the posterior cruciate ligament in single-bundle technique with autologous hamstring grafts. Oper Orthop Traumatol. 2010; 22: 354–372
Rauch AC, Schöttle PB, Beitzel K et al. Double-bundle technique--anatomic reconstruction of the posterior cruciate ligament. Oper Orthop Traumatol 2010; 22: 387–401
Zantop T, Petersen W. Modified Larson technique for posterolateral corner reconstruction of the knee. Oper Orthop Traumatol 2010; 22: 373–386

8.4 Traumatische und habituelle Patellaluxation

Baier C, Springorum HR, Beckmann J et al. Treatment of patellar instability in children and adolescents. Orthopade 2011; 40: 868–870
Brown DE, Alexander AH, Lichtman DM. The Elmslie-Trillat procedure: evaluation in patella dislocation and subluxation. Amer J Sports Med 1984; 12: 104–109
Cox JS. Evaluation of the Roux-Elmslie-Trillat procedure for knee extensor realignement. Amer J Sports Med 1982; 10: 303–310
Frosch S, Balcarek P, Walde TA et al. The treatment of patellar dislocation: a systematic review. Z Orthop Unfall 2011; 149: 630–645
Huber R, Ballmer P. 10-Jahres-Resultate bei Patella-Rezentierung nach Elmslie-Trillat. In: Debrunner A. Langzeitresultate in der Orthopädie. Stuttgart: Enke; 1990: 220–222
Krämer K-L, Jani L. Die Operation nach Elmslie-Trillat. Operat Orthop Traumatol 1991; 1: 38–48
Krogius A. Zur operativen Behandlung der habituellen Luxation der Kniescheiben. Zbl Chir 1904; 31: 254–257
Madigan R, Donaldson WF, Wissinger HA. Preliminary experience with a method of quadricepsplasty in recurrent subluxation of the patella. J Bone Joint Surg 1975; 57 A: 600–607
Maquet P. Biomechanics of the knee. New York: Springer; 1976
Nelitz M, Theile M, Dornacher D et al. Analysis of failed surgery for patellar instability in children with open growth plates. Knee Surg Sports Traumatol Arthrosc 2012; 20: 822–828
Palmu S, Kallio PE, Donell ST et al. Acute patellar dislocation in children and adolescents: a randomized clinical trial. J Bone Joint Surg Am 2008; 90: 463–470
Petersen W, Forkel P, Achtnich A. Chronic patellofemoral instability. Unfallchirurg 2012;115: 397–409
Petri M, Liodakis E, Hofmeister M et al. Operative vs conservative treatment of traumatic patellar dislocation: results of a prospective randomized controlled clinical trial. #@_Ref1phttp://www.ncbi.nlm.nih.gov/pubmed/23138693@# Arch Orthop Trauma Surg 2013; 133: 209–213
Quirbach S, Smekal V, Rosenberger RE et al. Anatomical double-bundle reconstruction of the medial patellofemoral ligament with a gracilis autograft. Oper Orthop Traumatol 2012; 24: 131–139
Roux C. Luxation habituelle de la rotule. Rev Chir 1888; 8: 682–689
Saranathan A, Kirkpatrick MS, Mani S et al. The effect of tibial tuberosity realignment procedures on the patellofemoral pressure distribution. Knee Surg Sports Traumatol Arthrosc 2012 ; 20: 2054–2061
Schöttle P, Schmeling A, Romero J et al. Anatomical reconstruction of the medial patellofemoral ligament using a free gracilis autograft. Arch Orthop Trauma Surg 2009; 129: 305–309

Shah JN, Howard JS, Flanigan DC et al. A systematic review of complications and failures associated with medial patellofemoral ligament reconstruction for recurrent patellar dislocation. Am J Sports Med 2012; 40: 1916–1923
Sommer HM. Patellar chondropathie und apicitis, and muscle imbalances of the lower extremities in competitive sports. Sports Med 1988; 5: 386–394
Trillat A, Dejour H, Couette A. Diagnostic et traitement des subluxations récidivantes de la rotule. Rev Chir orthop 1964; 50: 813–824
Viernstein K, Weigert M. Chondromalacia patellae beim Leistungssportler. Z Orthop 1968; 104: 422–435
Wirth T. Dislocations of the patella. Unfallchirurg 2011; 114: 388–395

8.5 Knorpelschäden und -rekonstruktionen

Gille J, Behrens P, Volpi P et al. Outcome of Autologous Matrix Induced Chondrogenesis (AMIC) in cartilage knee surgery: data of the AMIC Registry. Arch Orthop Trauma Surg 2013; 133: 87–93
Gudas R, Gudaite A, Pocius A et al. Ten-year follow-up of a prospective, randomized clinical study of mosaic osteochondral autologous transplantation versus microfracture for the treatment of osteochondral defects in the knee joint of athletes. Am J Sports Med 2012; 40: 2499–2508
Harris JD, Siston RA, Pan X et al. Autologous chondrocyte implantation: a systematic review. J Bone Joint Surg Am 2010; 92: 2220–2233
Kusano T, Jakob RP, Gautier E et al. Treatment of isolated chondral and osteochondral defects in the knee by autologous matrix-induced chondrogenesis (AMIC). Knee Surg Sports Traumatol Arthrosc 2012; 20: 2109–2115
Lim HC, Bae JH, Song SH et al. Current treatments of isolated articular cartilage lesions of the knee achieve similar outcomes. Clin Orthop Relat Res 2012; 470: 2261–2267
Negrin L, Kutscha-Lissberg F, Gartlehner G et al. Clinical outcome after microfracture of the knee: a meta-analysis of before/after-data of controlled studies. Int Orthop 2012; 36: 43–50
Proffen B, von Keudell A, Vavken P. Evidence-based therapy for cartilage lesions in the knee - regenerative treatment options. Z Orthop Unfall 2012; 150: 280–289
Stone JY, Schaal R. Postoperative management of patients with articular cartilage repair. J Knee Surg 2012; 25: 207–211
Vavken P, Samartzis D. Effectiveness of autologous chondrocyte implantation in cartilage repair of the knee: a systematic review of controlled trials. Osteoarthritis Cartilage. 2010; 18: 857–863

8.6 Rupturen der Sehne des M. quadriceps und des Lig. patellae

Greis PE, Holmstrom MC, Lahav A. Surgical treatment options for patella tendon rupture, Part I: acute. Orthopedics 2005a; 28: 672–679
Greis PE, Lahav A, Holmstrom MC. Surgical treatment options for patella tendon rupture, Part II: chronic. Orthopedics 2005b; 28: 765–769
Moritz A. Patellar tendon rupture. Orthopedics 2004; 27: 1223
Smillie IS. Kniegelenksverletzungen. Stuttgart: Enke; 1985

8.7 Patellafrakturen

Bühren V, Trentz O, Henneberger G. Die operative Behandlung der Patellafraktur. Chirurg 1989; 60: 723
Jürgens C, Kortmann H-R, Schultz J et al. Die Versorgung der Patellafraktur – eine Operation für den Anfänger? H Unfallheilk 1990; 212: 151
Müller ME, Allgöwer M, Schneider R et al. Manual der Osteosynthese – AO-Technik, 3. Ausgabe. Berlin: Springer; 1992
Sperner G, Wanitschek P, Benedetto KP. Spätergebnisse bei Patellafrakturen. Akt Traumatol 1990; 20: 24
Finkemeier CG, Nerlich M. Patella. In: Ruedi TP, Buckley RE, Moran CG, eds. AO principles of fracture management, 2nd edn. Stuttgart: Thieme; 2007: 801–815
Galla M, Lobenhoffer P. Frakturen der Patella. Chirurg 2005; 76: 987–999
Gosal HS, Singh P, Field RE. Clinical experience of patellar fracture fixation using metal wire or non-absorbable polyester – a study of 7 cases. Injury 2001; 32: 129–135
Levack B, Flannagan JP, Hobbs S. Results of surgical treatment of patellar fractures. J Bone Joint Surg Br 1985; 67: 416–419

8.8 Gonarthrose

8.8.1 Tibiakopfosteotomie, valgisierend

Blauth W, Schuchardt E. Orthopädisch-chirurgische Operationen am Knie. Stuttgart: Thieme; 19.42–19.52: 1986
Coventry MB. Current concepts review. Upper tibial osteotomy for osteoarthritis. J Bone Joint Surg 1985; 67 A: 1136
Dugdale W, Noyes FR, Styer D. Preoperative planning for high tibial osteotomy. Clin Orthop 1992; 274: 248–264
Jackson JP, Waugh W. The technique and complications of upper tibial osteotomy. J Bone Joint Surg 1974; 56 A: 236–245
Jenny K, Jenny H, Morscher E. Indikation, Operationstechnik und Resultate der transcondylären Tibiaosteotomie bei Gonarthrose. Orthopäde 1985; 14: 161–171

8.8.2 Suprakondyläre varisierende Femurkorrekturosteotomie

Cameron HU. Repair of nonunion of supracondylar femoral osteotomy. Orthop Rev 1992; 21: 349–350
Evans D. Techniques in Orthopaedics Surgery. Oxford: Blackwell; 1993.
Learmonth ID. A simple technique for varus supracondylar osteotomy in genu valgum. J Bone Joint Surg 1990; 72 B: 235–237
Maquet PGJ. Biomechanics of the Knee, 2nd ed. Berlin: Springer; 1984.
Wirth CJ, Kohn D. Operationen am Kniegelenk. In: Bauer R, Kerschbaumer F, Poisl F. Orthopädische Operationslehre, Teil 1: Becken und untere Extremität. Stuttgart: Thieme; 1994

8.8.3 Unikondyläre Schlittenprothese

Bartley RE, Stulberg D, Robb WJ, Sweeny HJ. Polyethylene wear in unicompartmental knee arthroplasty. Clin Orthop 1994; 299: 18–24
Murray DW, Goodfellow JW, O'Connor JJ. The Oxford medial unicompartmental arthroplasty, a ten year survival study. J Bone Joint Surg 1998; 73 B: 983–989
Scott RD, Cobb AG, MeQueary FG, Thornhill TS. Unicompartmental knee arthroplasty. 8- to 12-year follow-up evaluation with survivorship analysis. Clin Orthop 1991; 271: 96–100
Stern SH, Becker MW, Insall JN. Unicondylar knee arthroplasty. An evaluation of selection criteria. CH Orthop 1993; 286: 143–148
Swank M, Stulberg SD, Jiganti J et al. The natural history of unicompartmental arthroplasty. An eight year follow-up study with survivorship analysis. Clin Orthop 1993; 286: 130–142

8.8.4 Ungekoppelte bikondyläre Prothese

Eulert J, Hassenpflug H, Hrsg. Praxis der Knieendoprothetik. Heidelberg: Springer; 2000
Knutson K, Lewold S, Robertson O et al. The Swedish knee arthroplasty register. Acta orthop Scand 1994; 65: 375–386
Krackow KA. The technique of total knee arthroplasty. St. Louis: Mosby; 1990
Mont MA, Antonaides S, Krackow KA. Total knee arthroplasty after failed high tibial osteotomy. A comparison with a matched group. Clin Orthop 1994; 299: 125–130
Ranawat CS, ed. Total knee replacement. New York: Springer; 1985
Ritter MA, Herbs SA, Keating EM et al. Long-term survival analysis of a posterior cruciate-retaining total condylar knee arthroplasty. Clin Orthop 1994; 309: 136–145

8.8.5 Gekoppelte kondyläre Prothese

Eulert J, Hassenpflug H, Hrsg. Praxis der Knieendoprothetik. Heidelberg: Springer; 2000
Gschwend N, Siegrist H. Das GSB-Kniegelenk. Revisionseingriffe und Infektionen. Orthopäde 1991; 20: 197–205
Nieder E. Revisionsalloarthroplastik des Kniegelenkes. In: Bauer R, Kerschbaumer F, Poisl F, Hrsg. Orthopädische Operationslehre, Teil 1: Becken und untere Extremität. Stuttgart: Thieme; 1994

8.8.6 Arthrodese des Kniegelenks

Charnley JC. Positive pressure arthrodesis of the knee joint. J Bone Joint Surg 1948; 30 B: 478
Drobny TK, Munzinger U. Problems with infected knee prosthesis. Orthopäde 1991; 20: 239–243
Ellingsen DE, Rand JA. Intramedullary arthrodesis of the knee after failed total knee arthroplasty. J Bone Joint Surg 1994; 76: 870–877
Küntscher G. Praxis der Marknagelung. Stuttgart: Schattauer; 1962
Müller ME, Allgöwer M, Schneider R, Willenegger H. Manual der Osteosynthese. Berlin: Springer; 1992

9 Unterschenkel und Sprunggelenk

9.1 Tibiakopffraktur

Breithaupt O, Schlenzka R, Franck W. Versorgungstechniken und Behandlungsergebnisse komplexer Tibiakopfluxationsfrakturen. Unfallchirurg 1993; 230: 148
Lobenhoffer P, Blauth M, Tscherne H. Das komplexe Kniegelenkstrauma unter besonderer Berücksichtigung der Tibiakopffraktur. Hefte zu Der Unfallchirurg 1993; 230: 115
Müller ME, Allgöwer M, Schneider R et al. Manual der Osteosynthese. Berlin: Springer; 1992
Rüedi T, Hell K, Müller C. Nachkontrolle von 50 operativ behandelten Tibiakopffrakturen. Helv chir Acta 1975; 42: 27
Schatzker J, Marvin T. The Rationale of Operative Fracture Care. Berlin: Springer; 1987

9.2 Unterschenkelschaftfraktur

Dietz H-G, Schmittenbecher P, Illing P. Intramedulläre Osteosynthese im Wachstumsalter. München: Urban & Fischer; 1998
Gonschoreck O, Hoffmann GO, Bühren V. Kompressionsmarknagelung zur Behandlung von Unterschenkelfrakturen. Trauma und Berufskrankheit 2001; 3(2)
Hochstein P, Winkler H, Wentzensen A. Verfahrenswechsel nach primärer Anwendung des Fixateur externe bei Unterschenkelfrakturen. In: Rahmanzadeh R, Meißner A. Störung der Frakturheilung. Berlin: Springer; 1992
Höntzsch D, Weise K, Weller S. Verfahrenswechsel vom Fixateur externe zur Marknagelosteosynthese an Femur und Tibia. Trauma und Berufskrankheit 2001; 2(2)
Ketterl R. Vorgehen bei Unterschenkelfrakturen mit schwerem Weichteilschaden. Trauma und Berufskrankheit 2001; 3(2)
Müller CA, Dietrich M, Morakis P et al. Clinical results of the primary fixation of open tibial fractures treated with the unreamed AO/ASIF tibial nail. Unfallchiurg 1989; 101–111
Regazzoni P. Das Ilizarov-Konzept mit einem modularen Rohrfixateursystem. Operative Orthopädie und Traumatologie 1989; 21: 90–93
Rehli V, Slongo T. Die elastisch-stabile endomeduläre Schienung (EES) nach Prévot – Eine ideale Methode zur Versorgung kindlicher Schaftfrakturen. Z Unfallchir Versicherungsmed 1991; 84: 177–181
Schmitt-Neuerburg RP, Stürmer KM. Die Tibiaschaftfraktur beim Erwachsenen. Berlin: Springer; 1987
Weckbach A, Blatterl TR. Verfahrenswechsel bei proximalen Unterschenkelfrakturen. Trauma und Berufskrankheit 2001; 3(2)

9.3 Frakturen und Luxationen im oberen Sprunggelenk

Anderson ME. Reconstruction of the lateral ligaments of the ankle using the plantaris tendon. J Bone Joint Surg Am 1985; 67(6): 930–934
Barbari SG, Brevig K, Egge T. Reconstruction of the lateral ligamentous structures of the ankle with a modified Watson-Jones procedure. Foot Ankle 1987; 7(6): 362–368
Brostrom L. Sprained ankles. VI. Surgical treatment of „chronic“ ligament ruptures. Acta Chir Scand 1966; 132(5): 551–565
Chrisman OD, Snook GA. Reconstruction of lateral ligament tears of the ankle. An experimental study and clinical evaluation of seven patients treated by a new modification of the Elmslie procedure. J Bone Joint Surg Am 1969; 51(5): 904–912

Colville MR, Grondel RJ. Anatomic reconstruction of the lateral ankle ligaments using a split peroneus brevis tendon graft. Am J Sports Med 1995; 23(2): 210–213
Evans DL. Recurrent instability of the ankle; a method of surgical treatment. Proc R Soc Med 1953; 46(5): 343–344
Freeman MA, Wyke B. Articular reflexes at the ankle joint: an electromyographic study of normal and abnormal influences of ankle-joint mechanoreceptors upon reflex activity in the leg muscles. Br J Surg 1967; 54(12): 990–1001
Hanke J. Luxationsfrakturen des oberen Sprunggelenkes. H Unfallheilk 1988; 190
Hintermann B. Anatomische Rekonstruktion des Außenbandkomplexes am Sprunggelenk Oper Orthop Traumatol 1998; (10): 210–218
Jackson DW, Ashley RL, Powell JW. Ankle sprains in young athletes. Relation of severity and disability. Clin Orthop Relat Res 1974; (101): 201–215
Kannus P, Renstrom P. Treatment for acute tears of the lateral ligaments of the ankle. Operation, cast, or early controlled mobilization. J Bone Joint Surg Am 1991; 73(2): 305–312
Karlsson J, Bergsten T, Lansinger O et al. Surgical treatment of chronic lateral instability of the ankle joint. A new procedure. Am J Sports Med 1989; 17(2): 268–273
Kerkhoffs GM, Rowe BH, Assendelft WJ et al. Immobilisation for acute ankle sprain. A systematic review. Arch Orthop Trauma Surg 2001; 121(8): 462–471
Klein J, Rixen D, Albring T et al. Functional versus plaster cast treatment of acute rupture of the fibular ligament of the upper ankle joint. A randomized clinical study. Unfallchirurg 1991; 94(2): 99–104
Krips R, Dijk CN van, Lehtonen H et al. Sports activity level after surgical treatment for chronic anterolateral ankle instability. A multicenter study. Am J Sports Med 2002; 30(1): 13–19
Marti B, Vader JP, Minder CE et al. On the epidemiology of running injuries. The 1984 Bern Grand-Prix study. Am J Sports Med 1988; 16(3): 285–294
Müller ME, Allgöwer M, Schneider R. Manual der Osteosynthese, Berlin: Springer; 1992
Ogilvie-Harris DJ, Gilbart M. Treatment modalities for soft tissue injuries of the ankle: a critical review. Clin J Sport Med 1995; 5(3): 175–186
Paterson R, Cohen B, Taylor D et al. Reconstruction of the lateral ligaments of the ankle using semi-tendinosis graft. Foot Ankle Int 2000; 21(5): 413–419
Reichelt A, Weyrauch HJ. Surgical treatment in ligament injuries of the ankle joint. Unfallheilkunde 1982; 85(10): 427–430
Richter J, Volz R, Immenhöfer M et al. Rekonstruktion des Außenbandapparats mittels kniebeugesehnentransplantat bei chronischer Außenbandinstabilität des OSG. Oper Orthop Traumatol 2012; (24): 50–60
Sugimoto K, Takakura Y, Akiyama K et al. Long-term results of Watson-Jones tenodesis of the ankle. Clinical and radiographic findings after ten to eighteen years of follow-up. J Bone Joint Surg Am 1998; 80(11): 1587–1596
Sugimoto K, Takakura Y, Kumai T et al. Reconstruction of the lateral ankle ligaments with bone-patellar tendon graft in patients with chronic ankle instability: a preliminary report. Am J Sports Med 2002; 30(3): 340–346
Takao M, Oae K, Uchio Y et al. Anatomical reconstruction of the lateral ligaments of the ankle with a gracilis autograft: a new technique using an interference fit anchoring system. Am J Sports Med 2005; 33(6): 814–823
Weber BG. Brüche von Knöchel und Talus. Bewährtes und Neues in Diagnostik und Therapie. Langenbecks Arch Chir 1981; 335: 421

9.4 Pilon-tibiale-Fraktur

Barbieri R, Schenk R, Koval K et al. Hybrid External Fixation in the treatment of tibial fractures. Clinical Orthopedics and Related Research 1994; 332: 16–22
Heim U. Die Pilon tibiale Fraktur. Berlin: Springer; 1991
Helfet D, Koval K, Pappas J et al. Intraarticular pilon fracture of the tibia. Clinical Orthopaedics and Related Research 1994; 298: 221–228
Höntzsch D, Karnatz N, Jansen T. Ein- oder zweizeitige Versorgung der schweren Pilon tibiale Fraktur. Akt Traumat 1990; 20

9.5 Achillessehnenruptur

Amlang MH, Christiani P, Heinz P et al. Die perkutane Achillessehnennaht mit dem Dresdner Instrument. Technik und Ergebnisse. Unfallchirurg 2005; 108 (7): 529–536

Assal M, Jung M, Stern R et al. Limited open repair of Achilles tendon ruptures; a technique with a new instrument and findings of a prospective multicenter study. J Bone Joint Surg Am 2002; 84-A (2): 161–170
Bauer G, Eberhardt O. Die frische Achillessehnenruptur – Epidemiologie, Ätiologie, Diagnostik und aktuelle Therapie-Möglichkeiten. Sportverl Sportschad 1999; 13: 79–89
Bevilacqua NJ. Treatment of the neglected Achilles tendon rupture. Clin Podiatr Med Surg 2012; 29(2): 291–299
Bhandari M et al. Treatment of acute Achille tendon ruptures: a systematic overview and metaanalysis. Clin Orthop 2002; 400: 190–200
Cetti R et al. Operative versus nonoperative treatment of Achilles tendon rupture. A prospective randomized study and review of the literature. Am J Sports Med 1993; 21/6: 791–799
Elliot RR, Calder JD. Percutaneous and mini-open repair of acute Achilles tendon rupture. Foot Ankle Clin 2007; 12(4): 573–582
Ismail M, Karim A, Shulman R, et al. The Achillon Achilles tendon repair: is it strong enough? Foot Ankle Int 2008; 29(8): 808–813
Jiang N, Wang B, Chen A et al. Operative versus nonoperative treatment for acute Achilles tendon rupture: a meta-analysis based on current evidence. Int Orthop 2012; 36(4): 765–773
Jones MP, Khan RJ, Carey Smith RL. Surgical interventions for treating acute achilles tendon rupture: key findings from a recent cochrane review. J Bone Joint Surg Am 2012; 20; 94(12):e88
Khan RJ, Fick D, Keogh A et al. Treatment of acute achilles tendon ruptures. A meta-analysis of randomised, controlled trials. J Bone Joint Surg Am 2005; 87(10): 2202–2210
Kocher MS, Bishop J, Marshall R et al. Operative versus nonoperative management of acute Achilles tendon rupture: expected-value decision analysis. Am J Sports Med 2002; 30(6): 783–790
Mafulli N. Current Concepts Review – Rupture of the Achilles Tendon. J Bone Joint Surg Am 1999; 81/7: 1019–1036
Majewski M, Lehmann M, Steinbrück K. Wertigkeit der sonographischen Verlaufskontrolle nach Achillessehnenrupturbehandlung – Vergleich konservative Therapie, perkutane und offene Naht. Unfallchirurg 2003; 106: 556–560
Myerson MS. Achilles Tendon Ruptures. Instr Course Lect 1999; 48: 219–230
Nistor L. Surgical and non-surgical treatment of Achilles tendon rupture: A prospective randomized study. J Bone Joint Surg 1981; 63A: 394–399
Pajala A, Kangas J, Oktonen P et al. Rerupture and deep infection following treatment of total Achilles tendon rupture. J Bone Joint Surg Am 2002; 84-A(II): 2016–2021
Ronel DN, Newman MI, Gayle LB et al. Recent advances in the reconstruction of complex Achilles tendon defects. Microsurgery 2004; 24(1): 18–23
Thermann H, Hüfner T, Tscherne H. Achillessehnenruptur. Orthopäde 2000; 29: 235–250
Wilkins R, Bisson LJ. Operative versus nonoperative management of acute Achilles tendon ruptures: a quantitative systematic review of randomized controlled trials. Am J Sports Med 2012; 40(9): 2154–2160
Wong J, Barass V, Mafulli N. Quantitative review of operative and nonoperative management of Achilles tendon ruptures. Am J Sports Med 2002; 30(4): 565–575

9.6 Arthrose des oberen Sprunggelenks

Buchner M, Sabo D. Ankle fusion attributable to posttraumatic arthrosis: a long term follow-up of 48 patients. Clin Orthop Rel Res 2003; 406: 155–164
Kofoed H, Lundberg-Jensen A.: Ankle arthroplasty in patients younger and older than 50 years. Food and ankle International 1999; 20: 501–506
Tillmann K, Schaar M, Schaar D et al. Ergebnisse von OSG-Endoprothesen bei rheumatoider Arthritis. Fuß, Sprunggelenk 2003; 1: 56–65

9.7 Arthroskopische Operationen am oberen Sprunggelenk

Buchhorn T, Sabeti-Aschraf M, Dlaska CE et al. Combined medial and lateral anatomic ligament reconstruction for chronic rotational instability of the ankle. Foot Ankle Int 2011; 32: 1122–1126
Deng DF, Hamilton GA, Lee M et al. Complications associated with foot and ankle arthroscopy. J Foot Ankle Surg 2012; 51: 281–284

Donnenwerth MP, Roukis TS. Outcome of arthroscopic debridement and microfracture as the primary treatment for osteochondral lesions of the talar dome. Arthroscopy 2012; 28: 1902–1907
Rammelt S, Dürr C, Schneiders W et al. Minimally invasive fixation of calcaneal fractures. Oper Orthop Traumatol 2012; 24: 383–395
Schneider TE, Karaikudi S. Matrix-Induced Autologous Chondrocyte Implantation (MACI) grafting for osteochondral lesions of the talus. Foot Ankle Int 2009; 30: 810–814
Valderrabano V, Miska M, Leumann A et al. Reconstruction of Osteochondral Lesions of the Talus With Autologous Spongiosa Grafts and Autologous Matrix-Induced Chondrogenesis. Am J Sports Med 2013; 41(3): 519–527
van Eekeren IC, Reilingh ML, van Dijk CN. Rehabilitation and return-to-sports activity after debridement and bone marrow stimulation of osteochondral talar defects. Sports Med 2012; 42: 857–870
Zengerink M, van Dijk CN. Complications in ankle arthroscopy. Knee Surg Sports Traumatol Arthrosc 2012; 20: 1420–1431

10 Fuß

10.1 Talusfraktur

Beck E. Die Talusfraktur. Orthopäde 1991; 20: 33–42
Halvorson JJ, Winter SB, Teasdall RD et al. Talar Neck Fractures: A Systematic Review of the Literature. J Foot Ankle Surg 2013; 52(1): 56–61
Isay M, Wolvins R, Ochsner PE. Langzeitergebnisse nach Talusfrakturen. Z Unfallchir 1992; 85: 12–18
Kuner EH, Münst P. Talusfraktur. OP-Journal 1992; 2: 9–16
Rammelt S, Zwipp H. Talar neck and body fractures. Injury 2009; 40(2): 120–135

10.2 Kalkaneusfraktur

Brunner UH, Betz A, Halama R. Die operative Behandlung der Kalkaneusfraktur. Orthopädie 1991; 20: 55–66
Buckley R, Tough S, McCormack R et al. Operative compared with nonoperative treatment of displaced intra-articular calcaneal fractures: a prospective, randomized, controlled multicenter trial. J Bone Joint Surg Am 2002; 84-A(10): 1733–1744
Geerling J, Kendoff D, Citak M et al. Intraoperative 3D imaging in calcaneal fracture care-clinical implications and decision making. J Trauma 2009; 66: 768–773
Melcher G, Bereiter H, Leutenegger A et al. Results of operative treatment for intraarticular fractures of the calcaneus. J Trauma 1991; 31: 234–238
Paley D, Hall H. Intra-articular Fractures of the calcaneus. J Bone Joint Surg 1993; 75 A: 342–254
Rübberdt A, Feil R, Stengel D et al. The clinical use of the ISO-C(3D) imaging system in calcaneus fracture surgery. Unfallchirurg 2006; 109: 112–118
Sanders R. Displaced intra-articular fractures of the calcaneus. J Bone Joint Surg Am 2000; 82: 225--250
Zwipp H et al. Der intraartikuläre Fersenbeinbruch. Unfallchirurg 1989; 92: 117–129

10.3 Lisfranc- und Chopart-Luxation

Benirschke SK, Meinberg E, Anderson SA et al. Fractures and dislocations of the midfoot: Lisfranc and Chopart injuries. J Bone Joint Surg Am 2012; 94(14): 1325–1337
Brutscher R. Frakturen und Luxationen des Mittel- und Vorfußes. Orthopädie 1991; 20: 67–75
Henning JA, Jones CB, Sietsema DL et al. Open reduction internal fixation versus primary arthrodesis for Lisfranc injuries: a prospective randomized study. Foot Ankle Int 2009; 30(10): 913–922
Kuo RS, Tejwani NC, Digiovanni CW et al. Outcome after open reduction and internal fixation of Lisfranc joint injuries. J Bone Joint Surg Am 2000; 82(11): 1609–1618
Ly TV, Coetzee JC. Treatment of primarily ligamentous Lisfranc joint injuries: primary arthrodesis compared with open reduction and internal fixation. A prospective, randomized study. J Bone Joint Surg Am 2006; 88(3): 514–520

Richardson EG, Graves SE. Fractures and Dislocations of Foot. Campbell's Operative Orthopaedics, St. Louis: Mosby; 1992
Suren EG, Zwipp H. Luxationsfrakturen im Chopart- und Lisfranc-Gelenk. Unfallchirurg 1989; 92: 130–139
Swords MP, Schramski M, Switzer K et al. Chopart fractures and dislocations. Foot Ankle Clin 2008; 13(4): 679–693

10.4 Mittelfußfrakturen

Bauer G et al. Störung der Gangfunktion nach Metatarsale-5-Basisfrakturen. Unfallchirurg 1993; 96: 483–487
Braun C, Bauer M, Rose S et al. Eine einfache Methode zur Reposition von Mittelfußfrakturen. Traumatologie 1992; 2: 129–131
Hansis M, Meeder PJ, Weller S. Behandlungsstatistik bei Mittelfußfrakturen. Akt Traumat 1986; 16: 190–195
Kim HN, Park YJ, Kim GL et al. Closed antegrade intramedullary pinning for reduction and fixation of metatarsal fractures. J Foot Ankle Surg 2012; 51(4): 445–449

10.5 Hallux valgus und Hallux rigidus

Brandes M. Zur operativen Therapie des Hallux valgus. Zbl Chirurgie 1929; 56: 2434
Keller WL. The surgical treatment of bunions and hallux valgus. N Y med J 1904; 80: 741
Mann RA, Coughlin MJ. Surgery of the Foot and Ankle. St. Louis: Mosby; 1993
McBride E. A conservative operation for „bunions". J Bone Joint Surg 1928; 10: 10
Niezold D, Ferdini. Resektionsinterpositionsplastik. In: Wirth CJ, Ferdini R, Wülker N. Vorfußdeformitäten. Berlin: Springer; 1991

10.6 Krallen- und Hammerzehen

Cracchiolo III A. Hammerzehe und Krallenzehen: Pathologie und Behandlung. In: Wirth CJ, Ferdini R, Wülker N. Vorfußdeformitäten. Berlin: Springer; 1993

10.7 Arthrose und Fehlstellung im unteren Sprunggelenk

Adelaar RS, Dannelly EA, Meunier PA et al. A longterm study of triple arthrodesis in children. Orthop Clin N Amer 1976; 7: 895–908
Angus PD, Cowell HR. Triple arthrodesis: a critical longterm review. J Bone Joint Surg 1986; 68 B: 260–265
Hersh A, Fuchs LA. Treatment of uncorrective clubfoot by triple arthrodesis. Orthop Clin N Amer 1953; 4: 103–106
Siffert RS, Forster RI, Nachami B. „Beak" triple arthrodesis for correction of severe cables deformity. Clin Orthop 1966; 45: 101
Tenuta HE, Shelton J, Miller Freeman YA. Long-term follow-up of triple-arthrodesis in patients with cerebral palsy. J pediat Orthop 1993; 13: 713–716

10.8 Kongenitaler Klumpfuß

Bangs HH, Green WT. The correction of equinus deformity in cerebral palsy. J Bone Joint Surg 1958; 40 A: 1359
Carroll NC, McMurtry R, Leete SF. The pathoanatomy of congenital clubfoot. Orthop Clin North Am 1978; 9: 225–232
Cole WH. The treatment of claw foot. J Bone Joint Surg Am 1940; 22: 895–908
Dimeglio A, Benshel H, Souchet P et al. Classification of clubfoot. J Pediatr Orthop 1995; 4: 129–136
Dobbs MB, Nunley R, Schoenecker PL. Long-term follow-up of patients with clubfeet treated with extensive soft-tissue release. J Bone Joint Surg Am 2006; 88: 986–996
Döderlein L, Wenz W, Schneider U. Der Klumpfuß. Heidelberg: Springer; 1999
Dwyer FC. Osteotomy of the calcaneum for pes cavus. J Bone Joint Surg Br 1959; 41: 80–86
Haft GF, Walker CG, Crawford HA. Early clubfoot recurrence after use of the Ponseti method in a New Zealand population. J Bone Joint Surg Am 2007; 89: 487–493
Hoke M. An operation for stabilizing paralytic feet. J Orthop Surg 1921; 3: 494
Kaps HP, Niethard FU. Die Therapie des spastischen Spitzfußes. Orthop Prax 1985; 21: 543–548
Lambrinudi C. New operation for drop foot. Br J Surg 1927; 15: 193

McKay DW. New concept of and approach to clubfoot treatment: section II--correction of the clubfoot. J Pediatr Orthop 1983; 3: 10–21
Pirani S, Maddumba E, Mathias R et al. Towards effective Ponseti clubfoot care: the Uganda Sustainable Clubfoot Care Project. Clinical Orthop Relat Res 2009; 467: 1154–1163
Schaefer D, Hefti F. Combined cuboid/cuneiform osteotomy for correction of residual adductus deformity in idiopathic and secondary club feet. J Bone Joint Surg Br 2000; 82: 881–884
Silfverskiöld N. Reduction of the uncrossed two joint muscles of the leg to one joint muscles in spastic conditions. Act Chir Scand 1923–24. 56: 315
Simons GW. Complete subtalar release in club feet. J Bone Joint Surg 1985; 67 A: 1044–1055
Simons GW. Complete subtalar release in club feet. Part II – Comparison with less extensive procedures. J Bone Joint Surg Am 1985; 67: 1056–1065
Steindler A. The treatment of pes cavus (hollow claw foot). Arch Surg 1921; 2: 325–337
Turco VJ. Surgical correction of the resistant club foot. One-stage posteromedial release with internal fixation: a preliminary report. J Bone Joint Surg Am 1971: 53: 477–497
Wynne-Davies R. Genetic and environmental factors in the etiology of talipes equinovarus. Clin Orthop Relat Res 1972; 84: 9–13

10.9 Hohlfuß

Charles YP, Axt M, Döderlein L. Evaluation postoperatoire du pied creux a´l aide du podobarographie dynamique. Rev Chir Orthop 2001; 87: 696–705
Döderlein L, Wenz W, Schneider U. Der Hohlfuß. Berlin: Springer; 2001
Holmes JR, Hansen ST. Foot and ankle manifestations of Charcot-Marie-Tooth disease. Foot and Ankle 1993; 14: 476–486
Jahss MH. Tarsometatarsal truncated wedge arthrodesis for pes cavus and equinovarus deformity of the fore part of the foot. J Bone Joint Surg 1980; 62 A: 713–722
Jarde O, Abi Raad G, Vernois J. Tarsectomie anterieure pour pied creux essentiel etude retrospective de 52 cas. Acta orthop Belgica 2001; 67: 481–487

10.10 Knick-Platt-Fuß

Cohen-Sobel E, Giorgini R, Velez Z. Combined technique for surgical correction of pediatric severe flexible flatfoot. J Foot Ankle Surg 1995; 34: 183
Deland JT, Otis JC, Lee K et al. Lateral column lengthening with calcaneocuboid fusion: range of motion in the triple joint complex. Foot and Ankle 1995; 16: 729–733
Döderlein L, Wenz W, Schneider U. Der Knick-Platt-Fuß. Berlin: Springer; 2002
Giannini S, Catani F, Ceccarelli F et al. Kinematic and isokinetic evaluation of patients with flat foot. Ital J Orthop Traumatol 1992; 18: 241–251
Hansen ST. Functional reconstruction of the foot and ankle. Philadelphia: Lippincott, Williams and Wilkins; 2000
Johnson KA, Strom DE. Tibialis posterior tendon dysfunction. Clin Orthop Rel Res 1989; 239: 196–206
Trnka HJ, Easley ME, Myerson MS. The role of calcaneal osteotomies for correction of adult flatfoot. Clin Orthop Rel Res 1999; 365: 50–64

10.11 Spitzfuß

David AA, Tiemann J, Richter G. Korrigierende Eingriffe beim Spitz-Hohlfuß. Unfallchirurg 1997; 100: 371–374
Delp SL, Zajac F. Force- and moment-generating capacity of lower extremity muscles before and after tendon lengthening. Clin Orthop Rel Res 1992; 284: 247–259
Döderlein L, Schneider U. Der Spitzfuß. Der Hackenfuß. Berlin: Springer; 2003
Giorgini RJ, Sobel E. Correction of spastic equines. In: Jay RM. Pediatric Foot and Ankle Surgery. Philadelphia: Saunders; 1999: 304–319
Hansen ST. Functional reconstruction of the foot and ankle. Philadelphia: Lippincott, Williams and Wilkins; 2000
Herring JA. M. Tachdijan's Pediatric Orthopedics. Philadelphia: Saunders; 2002: 1647–1662
Huang SC. Soft tissue contractures of the knee or ankle treated by the Ilisarow technique: high recurrence rate in 26 patients followed for 3-6 years. Acta orthop Scand 1996; 67: 443–446
Zwipp H. Chirurgie des Fußes. Wien: Springer; 1994: 217–228

10.12 Fußheberparese

Carayon A, Bourrel P. Bourges M. Dual transfer of the posterior tibial and flexor digitorum longus tendons for drop foot: A report of 31 cases. J Bone Joint Surg 1976; 49 A: 144–148
Döderlein L, Schneider U. Der Spitzfuß, der Hackenfuß. Berlin: Springer; 2003
Hansen ST. Functional reconstruction of the foot and ankle. Philadelphia: Lippincott, Williams and Wilkins; 2000
Hiroshima K, Hamada S, Ono K. Anterior transfer of the long toe flexors for the treatment of spastic equinovarus and equinus foot in cerebral plasy. J Pediatr Orthop 1988; 8: 164–168
Hove LM, Nilsen PT. Posterior tibial tendon transfer for drop foot. 20 cases followed for 1–5 years. Acta orthop Scand 1998; 69: 608–610
Lipscomb PR, Sanchez JJ. Anterior transplantation of the posterior tibial tendon for persistent palsy of the common peroneal nerve. J Bone Joint Surg 1961; 43 A, No. 1: 60–66
Schneider M, Balon K. Deformity of the foot following anterior transfer of the posterior tibial tendon and lengthening of the Achilles tendon for spastic equinovarus. Clin Orthop Rel Res 1977; 125: 113–118

11 Polytrauma

Prehospital Trauma Life Support (PHTLS) Student Course Manual 7th Edition; NAEMT, COT, ACS, November 2010
Präklinisches Traumamangement: Prehospital Trauma Life Support (PHTLS) Germna Edition, Urban&Fischer, 2 Edition (Dezember, 2011
Advanced Trauma Life Support (ATLS) Student Course Manual 9th Edition, COT, ACS, Januar 2012
S3 – Leitlinie: Polytrauma/Schwerverletzten-Behandlung. Registernummer 012-019, AWMF, Juli 2011
Münzberg M, Mahlke L, Bouillon B, Paffrath P, Matthes G, Wölfl C. 6 Jahre Advanced Trauma Life Support (ATLS) in Deutschland – 100. Providerkurs in Hamburg. Unfallchirurg 2010; 113(7): 561-566. doi: 10.1007/s00113-010-1765-0
Münzberg M, Paffrath T, Matthes G, Mahlke L, Swartman B, Hoffmann M, Lefering R, Wölfl C. Does ATLS trauma training fit into western countries: evaluation of the first 8 years of ATLS in Germany. Eur J Trauma Emerg Surg 2013, online first doi: 10.1007/s00068-013-0316-0
Scholz B, Gliwitzky B, Bouillon B, Lackner CK, Hauer T, Wölfl C. Mit einer Sprache sprechen – Die Bedeutung des Prehospital Trauma Life Support (PHTLS) – Konzepts für die präklinische und des Advanced Trauma Life Support (AHTLS) – Konzepts für die klinische Notfallversorgung schwerverletzter Patienten. Notfall Rettungsmed 2010; 13 (1): 58-80
Wölfl C, Bouillon B, Lackner CK, Wentzensen A, Gliwitzky B, Groß B, Brockmann J, Hauer T. Prehospital Trauma Live Support (PHTLS) – Ein interdisziplinäres Ausbildungskonzept für die präklinische Traumaversorgung, Unfallchirurg 2008; 111(9): 688-694. doi: 10.1007/s00113-008-1466-0
Wölfl C, Gliwitzky B, Wetzenden A. Standardisierte Primärtherapie des polytraumatisierten Patienten – Prehospital Trauma Life Support und Advanced Trauma Life Support Unfallchirurg 2009; 112(10): 846-853. doi: 10.1007/s00113-009-1685-z
Wölfl C, Gühring T, Moghaddam A, Gliwitzky B, Schädler T, Grützner PA, Riess F, Frank C. Der PHTLS – TEAM Kurs – Ein Pilotprojekt Strukturierte Studentische Ausbildung in der präklinischen Versorgung schwerverletzter Patienten, Unfallchirurg 2012; 115 (3): 243-249. doi: 10.1007/s00113-011-2124-5
Wölfl C, Kotter J, Trupkovic T, Grützner PA, Münzberg M. Trauma room time out (TRTO), Neues Sicherheitstool zur Verbesserung der Patientensicherheit und Mitarbeiterzufriedenheit im Schockraum. Unfallchirurg 2014; 117:83-85

12 Weichteildefekte

Buehler MJ, Pacelli L, Wilson KM. Serratus fascia "sandwich" free-tissue transfer for complex dorsal hand and wrist avulsion injuries. J Reconstr Microsurg 1999; 15: 315–320
Cobbett JR. Free Digital Transfer. Report of a Case of Transfer of Great Toe to Replace an Amputated Thumb. J Bone Joint Surg 1969; 51: 677–679
Flügel A, Kehrer A, Heitmann C et al. Coverage of soft tissue defects of the hand with free fascial flaps. Microsurg 2005; 25: 47–53
Giessler GA, Erdmann D, Germann G. Soft tissue coverage in devastating hand injuries. Hand Clin 2003; 19: 63–71
Godina M. Early microsurgical reconstruction of complex trauma of the extremities. Plast Reconstr Surg 1986; 78: 285–292
Goertz O, Drücke D, Lehnhardt M et al. Transosseous route of vascular pedicles in microsurgical tissue transfer. Chirurg 2011; 82(1): 74–77
Kaplan EN, Buncke HJ, Murray DE. Distant transfer of cutaneous island flaps in humans by microvascular anastomoses. Plast Reconstr Surg 1973; 52: 301–305
Kneser U, Beier JP, Dragu A et al. Lokale Perforatorlappen. Trauma Berufskrankh 2011; 13: 77–82
Koshima I, Kawada S, Etoh H et al. Flow-through anterior thigh flaps for one-stage reconstruction of soft-tissue defects and revascularization of ischemic extremities. Plast Reconstr Surg 1995; 95: 252–260
Koshima I, Narushima M, Mihara M et al. New thoracodorsal artery perforator (TAPcp) flap with capillary perforators for reconstruction of upper limb. J Plast Reconstr Aesthetic Surg 2010; 63: 140–145
Lin SH, Chuang DC, Hattori Y et al. Traumatic major muscle loss in the upper extremity: reconstruction using functioning free muscle transplantation. J Reconstr Microsurg 2004; 20: 227–235
Nassif TM, Vidal L, Bovet JL et al. The parascapular flap: a new cutaneous microsurgical free flap. Plast Reconstr Surg 1982; 69: 591–600
Song YG, Cheng GZ, Song YL. The free thigh flap: a new free flap concept based on the septocutaneous artery. Br J Plast Surg 1984; 37: 149–159
Steinau HU, Daigeler A, Langer S et al. Limb salvage in malignant tumors. Semin Plast Surg 2010; 24: 18–33
Wintsch K, Helaly P. Free flap of gliding tissue. J Reconstr Microsurg 1986; 2: 143–150

13 Pseudarthrosen

13.1 Hypertrophe Pseudarthrosen

Debrunner HU. Orthopädisches Diagnostikum. Stuttgart: Thieme; 1978
Ilisarov GA. Angular deformities with shortening. In: Coombs R, Green S, Sarmiento D, eds. External Fixation and Function Bracing. MD Aspen: Frederic; 1989: 359–374
Ilisarov GA. Transosseus Osteosynthesis. Heidelberg: Springer; 1991
Paley D. Principles of deformity correction. Heidelberg: Springer; 2002
Paley D. The principles of deformity correction by the Ilisarov technique: Technical aspects. Tech Orthop 1989; 4(1): 15–29
Paley D, Pfeil J. Principles of deformity correction around the knee. Orthopäde 2000; 29(1): 18–38
Pfeil J, Heijens E, Gladbach B. Unilaterale Fixateure zur Korrektur von Deformitäten der Extremitäten. Orthopäde 2000; 29(1): 47–53
Pfeil J. Korrektur von Deformitäten der Extremitäten. Orthopäde 1999; 28(12): 997

13.2 Atrophe Pseudarthrosen

Blauth M, Becker T, Regel G. Ellenbogengelenksnahe, transepikondyläre Humeruspseudarthrosen. Operat Orthop Traumatol 1997; 9: 277-287
Bormann N, Pruss A, Schmidmaier G et al. In vitro testing of the osteoinductive potential of different bony allograft preparations. Arch Orthop Trauma Surg. 2010 Jan;130(1): 143-149
Fuchs T, Stange R, Schmidmaier G et al. The use of gentamicin-coated nails in the tibia: preliminary results of a prospective study. Arch Orthop Trauma Surg. 2011 Oct; 131(10): 1419-1425

Giannoudis PV, Einhorn TA, Schmidmaier G et al. The diamond concept—open questions. Injury. 2008 Sep; 39 Suppl 2: S5-8
Hansis M, Weller S. Die operative Behandlung der Klavikulapseudrthrose. Operat Orthop Traumatol 1989; 1: 139-144
Moghaddam A, Zimmermann G, Büchler A et al. Results of nonunion treatment with bone morphogenetic protein 7 (BMP-7). Unfallchirurg. 2012 Jun; 115(6): 518-526
Schmidmaier G, Herrmann S, Green J et al. Quantitative assessment of growth factors in reaming aspirate, iliac crest, and platelet preparation. Bone 2006, Nov; 39(5): 1156-1163
Wildemann B, Kandziora F, Krummrey G et al. Local and controlled release of growth factors (combination of IGF-I and TGF-beta I, and BMP-2 alone) from a polylactide coating of titanium implants do not lead to ectopic bone formation in sheep muscle. Journal of Controlled Release 2004; 95(2): 249-256
Zimmermann G, Moghaddam A, Reumann M et al. TGF-beta1 as a pathophysiological factor in fracture healing. Unfallchirurg. 2007 Feb; 110(2): 130-136.
Zimmermann G, Moghaddam A. Allograft bone matrix versus synthetic bone graft substitutes. Injury. 2011 Sep; 42 Suppl 2: S16-21

13.3 Defekt- und Infektpseudarthrose

Atesalp AS, Komurcu M, Basbozkurt M et al. The treatment of infected tibial nonunion with aggressive debridement and internal bone transport. Mil Med 2002; 167(12): 978–981
Cattaneo R, Catagni M, Johnson EE. The treatment of infected nonunions and segmental defects of the tibia by the methods of Ilizarov. Clin Orthop 1992; 280: 143–152
Ekkernkamp A, Muhr G, Josten C. Infizierte Pseudarthrosen. Unfallchirurg 1996; 12: 914–924
Green SA, Jackson JM, Wall DM et al. Management of segmental defects by the Ilizarov intercalary bone transport method. Clin Orthop 1992; 280: 136–142
Janicki P, Schmidmaier G. What should be the characteristics of the ideal bone graft substitute? Combining scaffolds with growth factors and/or stem cells. Injury. 2011 Sep; 42 Suppl 2:S77-81
Karger C, Kishi T, Schneider L et al. French Society of Orthopaedic Surgery and Traumatology (SoFCOT). Treatment of posttraumatic bone defects by the induced membrane technique. Orthop Traumatol Surg Res. 2012 Feb; 98(1): 97-102
Keller WH, Rehm KE. Possible uses for callus distraction. Bridging bone defects and bone lengthening in leg length inequality. Fortschr Med 1992; 110(31): 582–585
Lsarov GA. "Nonunions with bone defects." In: Coombs R, Green R, Sarmiento S, Hrsg. External Fixation and Functional Bracing. London: Orthotext; 1989
Lucke M, Schmidmaier G, Sadoni S, Wildemann B, Schiller R, Stemberger A, Haas NP, Raschke M. A new model of implant-related osteomyelitis in rats. J Biomed Mater Res B Appl Biomater. 2003 Oct 15; 67(1): 593-602
Sales-de-Gauzy J, Vidal H, Cahuzac JP. Primary shortening followed by callus distraction for the treatment of a posttraumatic bone defect: case report. J Trauma 1993; 34(3): 461–463
Schmidmaier G, Capanna R, Wildemann B et al. Bone morphogenetic proteins in critical-size bone defects: what are the options? Injury. 2009 Dec; 40 Suppl 3: S39-43
Schmidt HG, Wittek F, Fink B et al. Die Behandlung der chronischen Osteitis der Tibia. Unfallchirurg 1992; 95(11): 566–573
Spiro SA, Oppenheim W, Boss WK et al. Reconstruction of the lower extremity after grade III distal tibial injuries using combined microsurgical free tissue transfer and bone transport by distraction osteosynthesis. Ann Plast Surg 1993; 30(2): 97–104
Vester H, Wildemann B, Schmidmaier G, Stöckle U, Lucke M. Gentamycin delivered from a PDLLA coating of metallic implants: In vivo and in vitro characterisation for local prophylaxis of implant-related osteomyelitis. Injury. 2010 Oct; 41(10): 1053-1059

14 Kompartmentsyndrom

Bosch U. Das Kompartmentsyndrom am Becken. Unfallchirurg 1991; 94: 244–248
Duckworth AD, Mitchell SE, Molyneux SG et al. Acute Compartment Syndrome of the Forearm. J Bone Joint Surg Am 2012; 94: e63(1-6) doi: 10.2106/JBJS.K.00837
Ertel W, Trentz O. Das abdominelle Kompartmentsyndrom. Unfallchirurg 2001; 104: 560–568
Grechenig W, Tesch NP, Windisch G et al. Kompartmentsyndrom Fuß – Anatomie und chirurgische Technik. European Surgery 2001; 33: 3–7
Heppert V, Wentzensen A. Standards in der Unfallchirugie. Weichteilschädigung und Kompartmentsyndrom. Trauma Berufskrankh 2001; 3: 231–235
Holbein O, Bauer G, Strecker W et al. Behandlungsstrategie des Kompartmentsyndroms bei der Oberschenkeltrümmerfraktur. Hefte Unfallchir 267: 16–19
Holbein O, Strecker W, Rath SA et al. Das Kompartmentsyndrom am Oberschenkel mit Ischiadikusparese. Unfallchirurg 2000; 103: 275–280
Jäger C, Zeichen J. Das akute Kompartmentsyndrom des Unterschenkels. Orthop Traumatol 2011; 23: 5–14
Kladny B, Nerlich M. Das Kompartmentsyndrom am Oberschenkel. Unfallchirurg 1991; 94: 249–253
Nerlich M, Dziadzka S, Schmidt U. Das Kompartmentsyndrom am Unterschenkel. Langzeitergebnisse. Unfallchirurg 1991; 94: 257–261
Neumann C. Das akute Kompartmentsyndrom am Unterarm. Hefte Unfallchir 267: 20–23
Schachtrupp A, Jansen M, Bertram P et al. Abdominelles Kompartmentsyndrom. Anaesthesist 2006; 55: 660–667
Standl T. Das abdominelle Kompartmentsyndrom – Ein haufig unterschätztes Problem? Anasthesiol Intensivmed Notfallmed Schmerzther 2007; 7–8: 500–503
Swoboda B, Scola E, Zwipp H. Operative Behandlung und Spätergebnisse des Fußkompartmentsyndroms. Unfallchirurg 1991; 94: 262–266
Utzolino S et al. Das abdominale Kompartmentsyndrom. Zentralbl Chir 2011; 136: 129–134

15 Septische Chirurgie

15.1 Wundinfektion

Fleischmann W, Strecker W, Bombelli M et al. Vakuumversiegelung zur Behandlung des Weichteilschadens bei offenen Frakturen. Unfallchirurg 1993; 96: 488–492
Rittmann WW, Schawalder K, Enzler M. Stellenwert systemischer und lokaler Antibiotika-Anwendung bei Weichteil- und Knocheninfekten. Helv chir Acta 1990; 56: 879–889
Svetukhin AM, Karlov VA, Amiraslanov IA et al. General principles of the treatment of suppurative wounds and suppurative surgical diseases. Khirurgiia-Mosk 1990; 12: 79–84
Hesse UJ, Huber R, Rehm KE. Die lokale Muskelplastik zur Weichteilrekonstruktion nach Fraktur und Osteitis am Unterschenkel. Unfallchirurgie 1991; 17: 349–354
Krüger-Franke M, Carl C, Haus J. Die Behandlung der infizierten Marknagelosteosynthese. Ein Vergleich verschiedener Therapieverfahren. Akt Traumatol 1993; 23: 72–76
Neugebauer R. Weichteildefektdeckung durch ortsständige autochthone Muskellappenplastiken. Akt Probl Chir Orthop 1990; 34: 136–141
Pfister A, Ochsner PE. Erfahrungen mit geschlossenen Spül-Saug-Drainagen und gleichzeitiger Anwendung eines Antiseptikums. Unfallchirurg 1993; 96: 332–340
Wörsdörfer O, Fleischmann W. Die Spüldrainage in der lokalen Infektbehandlung an Knochen und Gelenk. Akt Probl Chir Orthop 1990; 34: 55–64

15.2 Osteitis

Burri C. Die chronische posttraumatische Osteitis. Helv chir Acta 1990; 56: 845–856
Ganzoni N, Jirecek V. Die gestielte Muskellappenplastik am Unterschenkel. Ein Beitrag zur Traumatologie des Unterschenkels. Stuttgart: Enke; 1991

15.3 Gelenkinfektion

Blauth W, Schuchardt E. Orthopädisch-chirurgische Operationen am Knie. Stuttgart: Thieme; 1986
Gächter A. Arthroskopische Spülung zur Behandlung infizierter Gelenke. Operat Orthop Traumatol 1989; 1: 196–199
Giebel G, Thermann H, Tscherne H. Synovektomie beim Knieinfekt. Unfallchirurg 1990; 93: 77–80
Hempfling H. Arthroskopie. Diagnostik und Therapie. Storz, Tuttlingen, 1987
Jensen KU, Klein W, Dann K. Die arthroskopische Behandlung der septischen Gonitis. Arthroskopie 1989; 2: 104–111
Michiels I, Schmitz B, Stridde E. Die Spül-Saug-Drainage und Synovektomie in der Behandlung des Kniegelenkempyems. Unfallchirurg 1993; 96: 508–516
Neumann K, Muhr G. Der Kniegelenkinfekt – eine arthroskopische Herausforderung? Orthopäde 1990; 19: 111–116
Witt SN, Betz A, Hierner R et al. Arthroskopische Behandlung von Gelenkinfekten mit Hilfe der Jet-Lavage („Pulsed irrigation"). Arthroskopie 1992; 5: 140–142

15.4 Infizierte Hüftendoprothesen

15.4.1 Frührevision/Spätrevision

Abendschein W. Salvage of infected total hip replacement: use of antibiotic/PMMA spacer. Orthopedics 1992; 15: 228–229
Babst R, Jenny H, Moscher E. Die Behandlung der infizierten Hüftgelenksarthroplastik. Orthopäde 1989; 18: 517–526
Bauer R, Kerschbaumer F, Poisel S. Orthopädische Operationslehre, Band II/1: Becken und untere Extremität. Stuttgart: Thieme; 1994
Collins DN, McKenzie JM. Infection at the site of a hip implant. Clin Orthop 1991; 69: 9–15
Cotta H, Braun A. Knochen- und Gelenkinfektionen – Diagnose und Therapie. Berlin: Springer; 1988
Lehner B, Witte D, Suda AJ, Weiss S. Revisionsstrategie bei Protheseninfekten. Orthopäde 2009; 38: 681-688
Ramanzadeh R, Breyer HG. Das infizierte Implantat. Berlin: Springer; 1990
Wilde AH. Management of infected knee and hip prostheses. Curr Opin Rheumatol 1993; 5: 317–321

15.4.2 Girdlestone-Situation

Chamay A, Taillard W, Kritsikis N et al. Die Hüftresektion nach Girdlestone. Orthopäde 1987, 16: 287–294
Ekkernkamp A, Neumann K, Muhr G. Resektionsarthroplastik nach Girdlestone bei infizierter Hüftendoprothese (Spätergebnisse). In: Blauth W, Ulrich HW. Spätergebnisse in der Orthopädie. Berlin: Springer; 1986
Girdlestone GR. Removal of femoral head and neck, pseudoarthrosis procedure. J Bone Joint Surg 1924; 6: 519
Rahmanzadeh R, Breyer HG. Das infizierte Implantat. Berlin: Springer; 1990

15.5 Infizierte Knieendoprothesen

Cotta H, Braun A. Knochen und Gelenkinfektionen – Diagnose und Therapie. Berlin: Springer; 1988
Drobny TK, Munzinger U. Zur Problematik der infizierten Knieprothese. Orthopäde 1991; 20: 239–243
Härle A. Die Infektion bei Knieendoprothesen. Orthopäde 1991; 20: 227–238
Munzinger U, Knessl J, Gschwend N. Arthrodese nach Knie-Arthroplastik. Orthopäde 1987; 16: 301–309
Rahmanzadeh R, Breyer HG. Das infizierte Implantat. Berlin: Springer; 1990
Wilson MG, Kelley K, Thornhill TS. Infection as a complication of total knee-replacement arthroplasty. Risk factors and treatment in sixty-seven cases. J Bone Joint Surg 1990; 72 A: 878–883
Anagnostakos K, Kelm J, Schmitt E. Indications for use of the V.A.C.-system in the orthopedic surgery. Zentralbl Chir 2006; 131(1): 87--92
Busfield BT, Huffman GR, Nahai F et al. Extended medial gastrocnemius rotational flap for treatment of chronic knee extensor mechanism deficiency in patients with and without total knee arthroplasty. Clin Orthop Relat Res 2004; (428): 190–197
Hanssen AD, Rand JA, Osmon DR. Treatment of the infected total knee arthroplasty with insertion of another prosthesis. The effect of antibiotic-impregnated bone cement. Clin Orthop Relat Res 1994; (309): 44–55

Jacobs C, Christensen CP, Berend ME. Static and mobile antibiotic-impregnated cement spacers for the management of prosthetic joint infection. J Am Acad Orthop Surg 2009; 17(6): 356–368
Kern T, Gollwitzer H, Militz M et al. Treatment of infected total knee arthroplasty. When does implant salvage make sense?. Orthopade 2006; 35(9): 929–930
Lehner B, Bernd L. V.A.C.-instill therapy in periprosthetic infection of hip and knee arthroplasty. Zentralbl Chir 2006; 131(1): 160–164
Maurer TB, Ochsner PE. Infected knee arthroplasty. A treatment algorithm at the Kantonsspital Liestal, Switzerland. Orthopade 2006; 35(9): 917–918
Morawietz L, Tiddens O, Mueller M et al. Twenty-three neutrophil granulocytes in 10 high-power fields is the best histopathological threshold to differentiate between aseptic and septic endoprosthesis loosening. Histopathology 2009; 54(7): 847–853
Munro JT, Garbuz DS, Masri BA et al. Articulating antibiotic impregnated spacers in two-stage revision of infected total knee arthroplasty. J Bone Joint Surg Br 2012; 94(11A): 123–125
Panni AS, Vasso M, Cerciello S et al. Wound complications in total knee arthroplasty. Which flap is to be used? With or without retention of prosthesis? Knee Surg Sports Traumatol Arthrosc 2011; 19(7): 1060–1068
Vanhegan IS, Morgan-Jones R, Barrett DS et al. Developing a strategy to treat established infection in total knee replacement: a review of the latest evidence and clinical practice. J Bone Joint Surg Br 2012; 94(7): 875–881
von Foerster G, Klüber D, Käbler U. Mittel- bis langfristige Ergebnisse nach Behandlung von 18 periprothetischen Infektionen nach Kniegelenksersatz durch einzeitige Austauschoperation. Orthopäde 1991; 20: 244–252
Zimmerli W, Ochsner PE. Management of infection associated with prosthetic joints. Infection 2003; 31(2): 99–108
Zimmerli W, Trampuz A, Ochsner PE. Prosthetic-joint infections. N Engl J Med 2004; 351(16): 1645–1654

16 Amputationen

16.1 Hüfte und Oberschenkel

Baumgartner R. Beinamputationen und Prothesenversorgung bei arteriellen Durchblutungsstörungen. Stuttgart: Enke; 1973
Dederich R. Amputationen der Gliedmaßen. Stuttgart: Thieme; 1987
Marquardt E, Corell J. Amputations and protheses for the lower limb. Int Orthop 1984; 8: 139–145
Neff G. Amputationen im Wachstumsalter. Z Orthop 1994; 132: 227–234
Sugarbaker PH, Malawer MM. Musculoskeletal surgery for cancer. New York: Thieme; 1992
Winkelmann W. Die Umdrehplastik bei malignen proximalen Femurtumoren. Z Orthop 1983; 121: 547–549

16.2 Knie, Unterschenkel

Baumgartner R, Botta P. Amputation und Prothesenversorgung der unteren Extremitäten. Stuttgart: Thieme; 2008
Jacobs C, Siozos P, Raible C, Wendl K, Frank C, Grützner P, Wölfl C. Amputation of a lower extremity after severe trauma. Operat Orthop Traumatol 2011 Oct; 23(4): 306-317. doi 10.1007/s00064-011- 0043-9

16.3 Fuß

Baumgartner R, Botta P. Amputation und Prothesenversorgung der unteren Extremitäten. Stuttgart: Thieme; 2008

16.4 Fingeramputation

Buriche M. Microsurgery: transplantation-replantation. Philadelphia: Lea & Fiebiger; 1991
Foucher G, Norris RW. Distal and very distal digital replantations. Brit J plast Surg 1992; 45: 199–203
Gruneberg R, Spence AJ. Fingeramputations and ability to work. Hand 1974; 6: 236

Weiland AJ, Villareal-Rios A, Kleinert HE et al. Replantation of digits and hands: analysis of surgical techniques and functional results. In: JI patients with 768 replantations. J Han Surg 1977; 2 A: 1–12
Biemer E. Indikationen und Grenzen der Replantation. Chirurg 1990; 61(2): 103–108
Macht SD, Watson HK. The Moberg volar advancement flap for digital reconstruction. J Hand Surg Am 1980; 5(4): 372–376
Morrison WA, McCombe D. Digital replantation. Hand Clin 2007; 23(1): 1–12
Sabapathy SR, Venkatramani H, Bharathi R et al. Replantation surgery. J Hand Surg Am 2011; 36(6): 1104–1110

17 Knochen- und Weichteiltumoren

17.1 Grundlagen

17.1.1 Klassifikation von Tumoreingriffen

Enneking WF, Spanier SS, Goodman MA. A system for the surgical staging of musculoskeletal sarcoma. Clin Orthop 1980; 153: 106–120
Spiessl B, Beahrs OH, Hermanek P et al. UICC – TNM-Atlas. Berlin: Springer; 1993

17.1.2 Planung von Tumoreingriffen

COSS – Studienprotokoll der Cooperative-Osteosarkom-Studie. Bezugsquelle: Studienleiter: Prof. Dr. K. Winkler, Abtlg. für Pädiatrische Hämatologie und Onkologie des Universitätskrankenhauses Hamburg-Eppendorf, Martinistr. 52, 20251 Hamburg
CWS – Studienprotokoll der Cooperative-Weichteilsarkom-Studie. Bezugsquelle: Studienleitung: Prof. Dr. J. Treuner, Olgahospital/Kinderklinik, Bismarckstr. 8, 70176 Stuttgart
EICESS – Studienprotokoll der European Intergroup Cooperative Ewing's Sarcoma Study. Bezugsquelle: Studienleitung: Prof. Dr. J. Jürgens, Klinik für Kinderheilkunde der Westf. Wilhelms-Universität, Albert-Schweitzer-Str. 33, 48149 Münster
Eble MJ, Quentmeier A, Ewerbeck V et al. Methodik, technische Voraussetzungen und postoperative Morbidität der intraoperativen Radiotherapie bei Weichteiltumoren. Radiologe 1993; 33: 513–519

17.2 Probeentnahmen

Bernd L, Ewerbeck V. Die operative Therapie von primär malignen Knochentumoren. Onkologe 2000; 6: 730–737
Bruns J, Delling G, Henne-Bruns D, Hossfeld DK. Biopsy of tumors of the musculoskeletal sytem. Dtsch. Ärztebl. Int. 105: 492-497
Campanacci M. Bone and Soft Tissue Tumors. Wien: Springer; 1990
Enneking WF. Musculoskeletal Tumor Surgery. New York: Churchill Livingstone; 1983
Exner GU, v. Hochstetter AR. Technik und Taktik der Biopsie incl. Punktion. Z Orthop 1992; 130: 272–275
Leithner A, Windhager R. Guidelines for the biopsy of bone and soft tissue tumours, Orthopade 2007; 36:167-174 (quiz 175)
Mankin HJ, Lange TA, Spanier SS. The hazards of biopsy in patients with malignant primary bone and soft-tissue tumors. J Bone Joint Surg 1982; 64 A: 1121–1127

17.3 Intraläsionale Eingriffe

17.3.1 Kürettage

Arbeitsgemeinschaft Knochentumoren: Becker WT, Dohle J, Bernd I, Braun A, Cserhati M et al. Local recurrence of giant cell tumor of bone after intralesional treatment with an without adjuvant therapy. J Bone Surg Am. 2008; 90: 1060-1067
Balke M, Schremper L, Gebert C et al. Giant cell tumor of bone: treatment and outcome of 2014 cases. J Cancer Res Clin Oncol. 2008 Sept; 134(9): 969-978
Campanacci M. Bone and Soft Tissue Tumors. Wien: Springer; 1990

Schiller C, Ritschl P, Windhager R et al. Die Rezidivhäufigkeit phenolisierter und nicht-phenolisierter Knochenhöhlen nach intraläsionaler Resektion nichtmaligner Knochentumoren. Z Orthop 1989; 127: 398–401
Schmitz-Nahrath M, Blasius S, Becker W. Histologische Untersuchung für die Ermittlung der optimalen Phenolkonzentration zur Schädigung von Knochenmarkszellen menschlicher Leichenwirbelkörper. Osteologie 1993; 2: 151–156
Szendröi M. Adjuvante Therapie (Phenol, Knochenzement) bei den Riesenzelltumoren. Z Orthop 1992; 130: 95–98

17.3.2 Autogene Spongiosaplastik

Braun A, Lücke R, Ewerbeck V et al. Verschluss von Knochen- und Weichteilfisteln mit dem Fibrin-Gentamicin-Verbund. In: Cotta H, Braun A. Knochen- und Gelenkinfektionen. Berlin: Springer; 1988: 105–114
Eggers Ch. Einbauverhalten autologer Knochentransplantate. H Unfallheilk 1989; 192
Ewerbeck V. Der Einfluss von Bisphosphonaten auf die Knochenregeneration und das Einbauverhalten autologer Spongiosatransplantate am Beispiel von Clodronat. Habil. Heidelberg; 1993

17.3.3 Allogene Spongiosaplastik

Angermann P, Jepsen OB. Procurement, banking and decontamination of bone and collagenous tissue allografts: guidelines for infection control. J Hosp Infec 1991; 17: 159–169
Deijkers RL, Bloem RM, Kroon HM, Van Lent JB, Brand R, Taminiau AH. Epidiphyseal versus other intercalary allografts for tumors of the lower limb. Clin Orthop Relat Res 2005 Oct; 439: 151-160
Friedlaender GE. Bone allografts: the biological consequenses of immunological events. Editorial. J Bone Joint Surg 1991; 73 A: 1119–1122
Frisoni T, Cevolani L, Giorgini A, Dozza B, Donati DM. Factors affecting outcome of massive intercalary bone allografts in the treatment of tumours of the femur. J Bone Joint Surg Br. 2012 Jun; 94(6): 836-841
Goldberg VM, Stevenson S. Natural history of autografts and allografts. Clin Orthop 1987; 225: 7–16
Horowitz MC, Friedländer GE. Induction of specific T-Cell responsiveness to allogenic bone. J Bone Joint Surg 1991; 73 A: 1157–1168
Knaepler H, v. Garrel T, Gürtler L. Die allogene Knochentransplantation – eine aktuelle Standortbestimmung. Dt Ärztebl 1994; 91 A: 1052–1057
Mankin HJ, Springfield DS, Gebhardt MC, Tomford WW. Current status of allografting for bone tumor. Orthopedics. 1992 Oct; 15(10): 1147-1154
Muscolo DL, Ayerza MA, Aponte-Tinao L, Farfalli G. Allograft reconstruction after sarcoma resection in children younger htan 10 years old. Clin Orthop Relat Res 2008 Aug; 466(8):1856-1862
Urist MR. Fundamental and clinical bone physiology. Philadelphia: Lippincott; 1980
Wissenschaftlicher Beirat der Bundesärztekammer. Richtlinien zum Führen einer Knochenbank. Dt Ärztebl 1990; 87 B: 41–44

17.3.4 Zementplombierung

Balke M, Schremper L, Gebert C et al. Giant cell tumor of bone: treatment and outcome of 2014 cases. J Cancer Res Clin Oncol. 2008 Sept; 134(9): 969-978
Campanacci M. Bone and Soft Tissue Tumors. Wien: Springer; 1990
Enneking WF. Limb Salvage in Musculoskeletal Oncology. Chapter 6: Effectiveness of methyl methacrylate as a physical adjuvant in local tumor control. New York: Churchill Livingstone; 1987: 443–530

17.4 Extremitätenerhaltende Eingriffe

17.4.1 Diaphysäre Segmentresektionen

Ahlmann ER, Menendez LR. Intercalary endoprosthetic reconstructions for diaphyseal bone tumours. J Bone Joint Surg Br. 2006; 88(11): 1487-1497
Bernd L, Sabo D, Zahlten-Hinguranage A, Niemeyer P, Daecke W, Simank HG. Experience with a vascularized fibular graft for reconstruction of osseous defects after resection of primary malignant bone tumours. Orthopäde, 2003; 32(11): 983-993

Berrey BH, Lord CF, Gebhardt MC et al. Fractures of allografts – frequency treatment and end-results. J Bone Joint Surg 1990; 72 A: 825–833
Capanna R, Campanacci DA, Belot N et al. A new reconstructive technique for intercalary defects of long bones: the association of massive allograft with vascularizes fibular autograft. long-term results and comparison with alternative techniques. Orthop Clin North Am. 2007; 38(1): 51-60
Eisenschenk A, Lehnert M, Weber U. Die freie, gefäßgestielte Fibulatransplantation zur Überbrückung von Knochendefekten. Operat Orthop Traumatol 1994; 6: 107–118
Enneking WF, Eady JC, Burchardt H. Autogenous cortical bone grafts in the reconstruction of segmental skeletal defects. J Bone Joint Surg 1980; 62 A: 1039–1058
Ewerbeck V, Friedl W. Chirurgische Therapie von Skelettmetastasen – eine interdisziplinäre Standortbestimmung. Berlin: Springer; 1992
Frisoni T, Cevolani L, Giorgini A, Dozza B, Donati DM. Factor affecting outcome of massive intercalary bone allografts in the treatment of tumours of the femur. J Bone Joint Surg Br. 2012 Jun; 94(6):836-841
Hsu RWW, Wood MB, Sim FH, Chao EYS. Free vascularised fibular grafting for reconstructions after tumour resection. J Bone Joint Surg Br. 1997 Jan; 79(1): 36-42
Kühner L, Simon R, Bernd L. Die vaskularisierte Fibulatransplantation in der orthopädischen Onkologie. Orthopäde 2001; 30(9): 658–665
Lord CF, Gebhard MC, Tomford WW et al. Infection on bone allografts. Incidence, nature and treatment. J Bone Joint Surg 1988; 70 A: 369–376
Pfeil J. Technik der unilateralen Kallusdistraktion an Femur und Tibia. Operat Orthop Traumatol 1994; 6: 1–28
Rabitsch K, ,Maurer-Ertl W, Pirker-Frühauf U, Wibmer C, Leithner A. Intercalary reconstructions with vascularised fibula and allograft after tumour resection in the lower limb. Sarcoma. 2013; 2013: 160295
Rüter A., Brutscher R. Die Ilizarov-Kortikotomie und Segmentverschiebung zur Behandlung großer Tibiadefekte. Operat Orthop Traumatol 1989; 1: 80–89

17.4.2 Resektion des proximalen Humerus

Campanacci M. Bone and Soft Tissue Tumors. Wien: Springer; 1990
Cannon CP, Paraliticci GU, Lin PP, Lewis VO, Yasko AW. Functional outcome following endoprosthetic reconstruction of the proximal humerus. J Shoulder Elbow Surg 2009 Sept-Oct; 18(5): 705-710
Koch S, Tillmann B. Anatomischer Kommentar. Der ventrokraniale Zugang zum Schultergelenk. Gefahren für den Nervus axillaris. Operativ Orthop Traumatol 1993; 5: 229–232
Raiss P, Kinkel S, Sauter U, Bruckner T, Lehner B. Replacement of the proximal humerus with MUTARS tumor endoprotheses. Eur J Surg Oncol 2010 Apr; 36(4): 371-377
Sugarbaker PH, Malawer MM. Musculoskeletal Surgery for Cancer. Principles and Techniques. Stuttgart: Thieme; 1992

17.4.3 Resektion des proximalen Femurs

Friedl W. Indication, management and results of surgical therapy of pathological fractures in patients with bone metastases. Europ J Surg Oncol 1990; 16: 380
Gosheger G, Gebert C, Ahrens H et al. Endoprosthetic reconstruction in 250 patients with sarcoma. Clin Orthop Relat Res 2006; 450: 164-171
Jeys LM, Kulkarni A, Grimer RJ et al. Endoprosthetic reconstruction for the treatment of musculosekeletal tumors of the appendicular skeleton an pelvis. J Bone Joint Surg Am. 2008. 90-A: 1265-1271
Kinkel S, Lehner B, Kleinhans JA et al. Medium to long-term results after reconstruction of bone defects at the knee with tumor endoprostheses. J Surg Oncol 2010; 101: 166-169
Kotz R. Tumorendoprothesen bei malignen Knochentumoren. Orthopäde 1993; 22: 160–166
Myers GJ, Abudu AT, Carter SR, Tillmann RM, Grimer RJ. Endoprosthetic replacement of the distal femur for bone tumours: long-term results. J Bone Joint Surg Br. 2007; 89-B: 521-526
Rompe JD, Eysel P, Hopf C et al. Der Einsatz der Tumorprothese bei sekundär-neoplastischer Destruktion des proximalen Femurendes. Z Orthop 1993; 131: 446–451

Schreiber A, Exner GU, Hochstetter AR. Muscle reattachment – especially the gluteal muscles – after proximal femur resection and replacement by tumor prosthesis. In: Langlais F, Tomen B. Limb Salvage. Berlin: Springer; 1991: 395
Sim FH, Chao EYS. Bone and joint reconstruction for primary bone tumors of the proximal femur. In: Enneking WF. Limb Salvage in Musculoskeletal Oncology. New York: Churchill Livingstone; 1987: 227–233

17.4.4 Resektion des distalen Femurs und des Kniegelenks

Enneking WF. Limb Salvage in Musculo-skeletal Oncology. New York: Churchill Livingstone; 1987
Hardes J, Henrichs MP, Goshegger G, Gebert C, Höll S, Diedckmann R, Hauschild G, Streitbürger A. Endoprothetic replacement after extra-articular resection of bone and soft-tissue tumours around the knee. Bone Joint J, 2013 Oct; 95-B(10): 1425-1431
Kotz R, Ritschl P, Kropej D et al. Die Grenzen der Extremitätenerhaltung – Amputation versus Resektion. Z Orthop 1992; 130: 299–305
Pennekamp PH, Wirtz DC, Dürr HR. Proximal and total femur replacement. Oper Orthop Traumatol. 2012 Jul; 24(3): 215-226
Ritschl P, Campanna R, Helwig U et al. Modulares Tumorendoprothesensystem für die untere Extremität. Z Orthop 1992; 130: 290–293
Schinhan M, Funovics P, Dominkus M, Windhanger R. Wachstumsprothesen zur Rekonstruktion von Defekten der unteren Extremitäten beim Kind. Oper Orthop Traumatol 2012; 24: 235-246
Sugarbaker PH, Malawer MM. Musculoskeletal Surgery for Cancer. Stuttgart: Thieme; 1992

17.4.5 Resektion der proximalen Tibia

Enneking WF. Limb Salvage in Musculo-skeletal Oncology. New York: Churchill Livingstone; 1987
Holzapfel BM, Pilge H, Toepfer A, Jakubietz RG, Gollwitzer H, Rechl H, von Eisenhart-Rothe R, Rudert M. Proximaler Tibiaersatz und alloplastische Rekonstruktion des Streckapparates nach Resektion kniegelenksnaher Tumoren. Oper Orthop Traumatol 2012; 24: 247-262
Kotz R, Ritschl P, Kropey D et al. Die Grenzen der Extremitätenerhaltung – Amputation versus Resektion. Z Orthop 1992; 130: 299–305
Ritschl P, Campanna R, Helwig U et al. Modulares Tumorendoprothesensystem für die untere Extremität. Z Orthop 1992; 130: 290–293
Sugarbaker PH, Malawer MM. Musculoskeletal Surgery for Cancer. Stuttgart: Thieme; 1992

17.4.6 Rotationsplastik nach Borggreve-van Nes

Heise U, Minet-Sommer S. Die Umkehrplastik nach Borggreve. Eine Operationsmethode bei der Therapie maligner Knochentumoren und deren funktionelle Ergebnisse. Z Orthop 1993; 131: 452–460
Kotz R. Die Umkehrplastik bei malignen Tumoren der unteren Extremität. Operat Orthop Traumatol 1991; 3: 117–129
Winkelmann W. Die Umdrehplastiken. Orthopädie 1993; 22: 152–159

17.4.7 Innere Hemipelvektomie

Enneking WF. Limb Salvage in Musculoskeletal Oncology: Chapter 2: Functional results of reconstruction for periacetabular pelvic resections requiring sacrifice of the hip joint. New York: Churchill Livingstone; 1987: 103–191
Fahey M, Spanier SS, Vander Griend RA. Osteosarcoma of the pelvis. J Bone Joint Surg 1992; 74 A: 321–330
Gradinger R, Rechl H, Hipp E. Pelvic osteosarcoma – resection, reconstruction, local control, and survival statistics. Clin Orthop 1991; 270: 149–157
Gradinger R, Rechl H, Ascherl R et al. Endoprothetischer Teilersatz des Beckens bei malignen Tumoren. Orthopäde 1993; 22: 167
Harrington KD. The use of hemipelvic allografts or autoclaved grafts for reconstruction after wide resection of malignant tumors of pelvis. J Bone Joint Surg 1992; 74(3): 331–341
Hoffmann C, Gosheger G, Gebert C et al. Functional results and quality of life after treatment of pelvic sarcomas involving the acetabulum, J Bone Joint Surg Am. 2006; 88: 575-582

Knox K, Bitzos I, Granick M et al. (2006) Immediate reconstruction of oncologic hemipelvectomy defects. Ann Plast Surg 2006; 57: 184-189
Mutschler W, Burri C. Innere Hemipelvektomie und Beckenersatz. Operat Orthop Traumatol 1990; 2: 1–13
Ozaki T, Hillmann A, Winkelmann W. Treatment outcome of pelvic sarcomas in young children: orthopaedic and oncologic analysis. J Pediatr Orthop 1998; 18: 350-355
Rudert M, Holzapfel BM, Pilge H, Rechl H, Gradinger R. Beckenteilresektion (innere Hemipelvektomie) und endoprothetischer Ersatz bei hüftgelenksnahen Tumoren. Oper Orthop Traumatol 2012; 24: 196-214
Sugarbaker RH, Malawer MM. Musculoskeletal Surgery for Cancer. Stuttgart: Thieme; 1992
Windhager R, Welkerling H, Kastner N et al. Operative Therapie am Becken und an der Wirbelsäule bei primär malignen Knochentumoren. Orthopäde 2003; 32: 971-982

17.5 Eingriffe bei Weichteiltumoren

Eble MJ, Quentmeier A, Ewerbeck V et al. Methodik, technische Voraussetzungen und postoperative Morbidität der intraoperativen Radiotherapie (IORT) bei Weichteilsarkomen. Radiologe 1993; 33: 513–519
Enzinger FM, Weiss SW. Soft Tissue Tumors. St. Louis: Mosby; 1988
Gronchi A, Colombo C, Raut CP. Surgical management of localized soft tissue tumors. Cancer 2014 Apr; 17
Khatri VP, Goodnight JE Jr. Extremity soft tissue sarcoma: controversial management issues. Surgical Oncology 2005; 14: 1-9
Sugarbaker PH, Malawer MM. Musculoskeletal Surgery for Cancer. Stuttgart: Thieme; 1992
Suit H, Mankin J, Wood WC. Preoperative, intraoperative and postoperative radiatio in the treatment of primary soft tissue sarcoma. Cancer 1985; 55: 2659–2667
Swallo CJ, Catton CN. Local Management of adult soft tissue sarcomas. Semin Oncol 2007; 34:256-269
Yasko AW, Lane JM. Current concepts review. Chemotherapy for bone and soft-tissue sarcomas of the extremities. J Bone Joint Surg 1991; 73 A: 1263–1271

17.6 Eingriffe bei Tumoren der Wirbelsäule

Bauer R, Kerschbaumer F, Poisel S. Orthopädische Operationslehre, Band I: Wirbelsäule. Stuttgart: Thieme; 1991
Chi JH, Sciubba DM, Rhines LD. Surgery for primary vertebral tumors: en bloc versus intralesional resection, Neurosurg Clin N Am 2008; 19:111-117
Druschel C, Disch AC, Melcher I, Luzzati A, Haas NP,.Schaser K-D. Multisegmentale En-bloc-Spondylektomie. Oper Orthop Traumatol 2012; 24: 272-283
Ewerbeck V. Die operative Behandlung von Wirbelsäulenmetastasen. In: Ewerbeck V, Friedl W. Chirurgische Therapie von Skelettmetastasen – eine interdisziplinäre Standortbestimmung. Berlin: Springer; 1992: 77–110
Krepler P, Windhager R, Bretschneider W. Total vertebrectomy for primary malignant tumours of the spine. J Bone Joint Surg Br. 2002; 84: 712-715
Melcher I, Disch AC, Khodadadyan-Klostermann C. Primary malignant bone tumors and solitary metastases of the thoracolumbar spine: results by management with total en bloc spondylectomy, Eur Spine J 2007; 16(8): 1193-1202
Mutschler W, Wörsdörfer O, Schulte M. Tumorresektionen und rekonstruktive Eingriff bei Wirbeltumoren. Orthopäde 1993; 22: 189-199
Pfeil J, Edelmann P. Reposition und Stabilisation von Wirbelsäulendeformitäten und -frakturen mit dem Spine-fix-System als Beispiel einer dorsalen Doppelstabmontage. Operat Orthop Traumatol 1994; 3: 147–166
Sundaresan N, Schmidek HH, Schiller AC et al. Tumors of the Spine. Diagnosis and Clinical Management. Philadelphia: Saunders; 1990
Tomita K, Kawahara N, Kobayahi T. (2001) Surgical strategy for spinal metastases. Spine 2001; 26: 298-306
Tomita K, Kawahara N, Murakami H. Total en bloc spondylectomy for spinal tumors: improvement of the technique and its associated basic background. J Orthop Sci 2006; 11: 3-12

18 Verbrennungen

Aboelatta Y, Abdelsalam A. Volume Overload of Fluid Resuscitation in Acutely Burned Patients Using Transpulmonary Thermodilution Technique. J Burn Care Res 2013; 34(3): 349–354
Benicke M, Perbix W, Lefering R et al. New multifactorial burn resuscitation formula offers superior predictive reliability in comparison to established algorithms. Burns 2009; 35: 30–35
Cartotto R. Fluid resuscitation of the thermally injured patient. Clin Plast Surg 2009; 36: 569–581
Chen XL, Xia ZF, Wei HF. Escharectomy and allografting during shock stage reduces insulin resistance induced by major burn. J Burn Care Res 2011; 32(3): e59–66
Drozdz L, Madry R, Struzyna J. Burn shock, diagnostics, monitoring and fluid therapy of severe burns--new look. Wiad Lek 2011; 64: 288–293
Forster NA, Zingg M, Haile SR et al. 30 years later – does the ABSI need revision? Burns 2011; 37: 958–963
Giessler GA, Deb R, Germann G et al. Primary treatment of burn patients. Chirurg 2004; 75: 560–567
Giessler GA, Mayer T, Trupkovic T. Burn trauma. Part 2: Anesthesiological, surgical and intensive care management. Anaesthesist 2009; 58: 474–484
Herndon DN. Total Burn Care. Philadelphia: Saunders; 2012
Janis JE, Kwon RK, Attinger CE. The new reconstructive ladder: modifications to the traditional model. Plast Reconstr Surg 2011; 127 Suppl 1: 205S–212S
Kamolz L-PH, David N. Verbrennungen: Diagnose, Therapie und Rehabilitation des thermischen Traumas. Heidelberg: Springer; 2009
Kirn DS, Luce EA. Early excision and grafting versus conservative management of burns in the elderly. Plast Reconstr Surg 1998; 102(4): 1013–1017
Kuntscher MV, Blome-Eberwein S, Pelzer M et al. Transcardiopulmonary vs pulmonary arterial thermodilution methods for hemodynamic monitoring of burned patients. J Burn Care Rehabil 2002; 23: 21–26
Mosier MJ, Pham TN, Park DR et al. Predictive value of bronchoscopy in assessing the severity of inhalation injury. J Burn Care Res 2012; 33: 65–73
Orman MA, Ierapetritou MG, Berthiaume F et al. Long-term dynamic profiling of inflammatory mediators in double-hit burn and sepsis animal models. Cytokine 2012; 58: 307–315
Philipp K, Giessler GA, Germann G et al. Accidental thermal injury to the hand. Unfallchirurg 2005; 108: 179–188
Piccolo NS, Piccolo MS, Piccolo PD et al. Escharotomies, fasciotomies and carpal tunnel release in burn patients – review of the literature and presentation of an algorithm for surgical decision making. Handchir Mikrochir Plast Chir 2007; 39: 161–167
Premru V, Kovac J, Buturovic-Ponikvar J et al. High cut-off membrane hemodiafiltration in myoglobinuric acute renal failure: a case series. Ther Apher Dial 2011; 15: 287–291
Rex S. Burn injuries. Curr Opin Criti Care 2012; 18: 671–676
Rivers E, Nguyen B, Havstad S et al. Early goal-directed therapy in the treatment of severe sepsis and septic shock. N Engl J Med 2001; 345: 1368–1377
Sheng Z. Prevention of multiple organ dysfunction syndrome in patients with extensive deep burns. Chinese J Traumatol 2002; 5(4): 195–199
Spilker G. Verbrennungsmedizin: Vom Unfallort bis zur Rehabilitation. Stuttgart: Thieme; 2008
Tiwari VK. Burn wound: How it differs from other wounds? Indian J Plast Surg 2012; 45: 364–373
Trupkovic T, Giessler G. Burn trauma. Part 1: pathophysiology, preclinical care and emergency room management. Anaesthesist 2008; 57: 898–907
Van Aken H, Konrad R, Zimpfer M et al. Intensivmedizin. Stuttgart: Thieme; 2006

19 Kinderorthopädie

19.1 Deformitätenkorrektur

19.1.1 Grundlagen

Paley J et al. The multiplier method for prediction of adult height. J Pediatr Orthop 2004; 24:732-737

19.1.2 Klinische Untersuchung

Keine Literaturangaben nötig.

19.1.3 Radiologische Diagnostik

Keine Literaturangaben nötig.

19.1.4 Normwerte, Vermessungssysteme

Pfeil J, Grill F, Graf R. Technik der Verlängerungen, Pseudarthrosenbehandlung und Deformitätenkorrektur. Berlin: Springer; 1996
Paley D, Pfeil J. Prinzipien der kniegelenksnahem Deformitätenkorrektur. Orthopäde 2000 (1) 18-38

19.1.5 Krankengymnastik

Keine Literaturangaben nötig.

19.1.6 Fehlstellungsanalyse

Gladbach B, Pfeil J, Heijens E. Korrektur von Beindeformitäten. Definition, Quantifizierung und Korrektur von Achsfelstellungen und Translationen. Orthopäde 1999; 28(12): 1023-33
Paley D. Principles of deformity correction, 3rd ed. Berlin: Springer 2005

19.1.7 Beispiel der Deformitätenplanung

Keine Literaturangaben nötig.

19.1.8 Verkürzungsosteotomie des Femurs

Bowen, JR., Johnson WJ. Percutaneous epiphyseodesis. Clin Orthop. 1984; 4: 170-190
Claes L, Wilke HJ, Rübenacker S, Kiefer H. Interfragmentäre Dehnung und Knochenheilung. Chirurgisches Forum. Berlin: Springer; 1989: 279-283
Grenn, WT, Wyatt GM, Anderson M. Orthoroentgenography as a method of measurement the bones of the lower extremity. J Bone Joint Surg 1946; 28: 60-65
Menelaus MB. (1991): The Management of Limb Inequality. Edinburgh: Churchill Livingstone; 1991: 49-58
Mosley CF. A straight line graph for leg length discrepancies. J Bone Joint Surg 1977; 59 A: 174-179
Pfeil J, Niethard FU, Carstens C. Abwägende Indikationsstellung zur operativen Beinverlängerung. Sozialpädiat Prax Klein 1988; 10: 154-158
Gladbach B, Pfeil J, Heijens E. Die perkutane Epiphyseodese Behandlung von Beinlängendifferenzen und Achsenfehlstellungen in der Frontalebene Orthopäde 2000; 29 (1): 2-8

19.1.9 Perkutane Epiphyseodese – Längenkorrektur

Anderson, MS, Messner MB, Green WT. Distribution of lengths of the normal femur and tibia in children from 1 to 18 years. J Bone Joint Surg 1964; 46 A: 1197-1202
Bowen JR, Johnson WJ. (1984): Percutaneous epiphyseodesis. Clin Ortho 1984; 170-190
Canale ST, Russel TA, Holcomb RL. Percutaneous epiphyseodesis. Experimental study and preliminary clinical results. J Pediat Orthop 1986; 6: 150-156
Gladbach B, Pfeil J, Heijens E. Perkutane Epiphyseodese. Behandlung von Beinlängendifferenzen und Fehlstellungen in der Frontalebene. Orthopäde 200; 29 (1): 2-8
Menelaus MB. The Management of Limb Inequality. Edinburgh: Churchill Livingstone; 1991
Mosley C. A straight line graph for leg length discrepancies. J Bone Joint Surg 1977; 59 A: 174-179

Pfeil J. Korrektur von Deformitäten der Extremitäten. Orthopäde 1999; 28 12: 997
Timperlake RW, Bowen JR, Guille JT, Choi IH. (1991): Prospective evaluation of fifty-three consecutive percutaneous epiphyseodeses of the distal femur and proximal tibia and fibula. J Pediat Orthop 1991; 11: 350-357

19.1.10 Epiphyseodesentechniken zur Achsenkorrektur

Gladbach B, Pfeil J, Heijens E. Die perkutane Epiphyseodese Behandlung von Beinlängendifferenzen und Achsenfehlstellungen in der Frontalebene Orthopäde 2000; 29 (1): 2-8
Paley D. Principles of deformity correction, 3rd ed. Berlin: Springer 2005
Stevens PM, Klatt JB. Guided Growth for Pathological Physes Radiographic Improvement during Realignment (J Pediat Orthop 2008; 28:632Y639

19.1.11 Unilaterale Kallusdistraktion des Femurs

Catagni M. (1991): The radiograph classification of bone regenerate during distraction. In: Bianchi Maiocchi A, Aronson J.: Operative Principles of Ilisarov. Milan: Medi Surgical Video; 1991
Menelaus MB. (1991): The Management of Limb Inequality. Edinburgh: Churchill Livingstone; 1991: 49-58
Pauschert R, Pfeil J. (1993): Achskorrigierende Verlängerungen in unilateraler Technik. Orthop Prax 1993; 11: 737-742
Pfeil J. Heidelberger Erfahrungen mit der Kallusdistraktion am traumatisierten Ober- und Unterschenkel. H Unfallheilk 1993; 232: 826-828
Pfeil J, Pauschert R. Das Heidelberg External Fixation System – Vorstellung und erste klinische Ergebnisse. Orthop Prax 1993; 1: 731-767
Pfeil J. Technik der unilateralen Kallusdistraktion an Femur und Tibia. Operat Orthop Traumatol 1994a: 6: 1-28
Pfeil, J. Unilaterale Fixateurmontage. Stuttgart: Thieme; 1994b
Shapiro F. (1987): Longitudinal growth of the femur and tibia after diaphyseal lengthening. J Bone Joint Surg 1987; 69: 684-690

19.1.12 Kallusdistraktion des Femurs mit Verlängerungsmarknägeln

Burghardt RD et al. Mechanical failure of the Intramedullary Skeletal Kinetic Distractor in limb lengthening. J Bone Joint Surg Br. 2011; 93(5):639-643
Kenawey M et al. Leg lengthening using intramedullay skeletal kinetic distractor: results of 57 consecutive applications. Injury. 2011; 42(2):150-155
Leidinger B, Winkelmann W, Roedl R. Limb lengthening with a fully implantable mechanical distraction intramedullary nail. Z Orthop Ihre Grenzgeb 2006; 144(4):419-426
Schiedel FM et al. Intramedullary limb lengthening with the Intramedullary Skeletal Kinetic Distractor in the lower limb. J Bone Joint Surg Br. 2011; 93(6):788-792

19.1.13 Suprakondyläre fixateurassistierte Femurachsenkorrektur mit winkelstabiler Plattenosteosynthese

Keine Literaturangaben nötig.

19.1.14 Unilaterale Kallusdistraktion am Unterschenkel

Catagni, M. (1991): Lengthening of the tibia. In: Bianchi Maiocchi A, Aronson J. Operative Principles of Ilisarov. Milan: Medi Surgical Video; 1991: 288-309
Green SA. The Ilisarov method – rancho technique. Orthop Clin N Amer 1991; 22: 677-688
Pauschert R, Pfeil J (1993): Achskorrigierende Verlängerungen in unilateraler Technik. Orthop Prax 1993; 11: 737-742
Pfeil J, Niethard FU, C. Carstens C. Abwägende Indikationsstellung zur operativen Beinverlängerung. Sozialpädiat Prax Klein 1988; 10: 154-158
Pfeil J, Schneider E. Aktueller Stand der operativen Extremitätenverlängerung. Dtsch Ärztebl 1989; 86: 3090-3100
Pfeil J, Niethard FU. Unterschenkelverlängerung mit dem Ilisarov-System: Darstellung der unterschiedlichen operativen Techniken und Analyse der 1986-1990 durchgeführten Unterschenkelverlängerungen. Orthopäde 1990; 19: 263-272

Pfeil, J. (1993): Heidelberger Erfahrungen mit der Kallusdistraktion am traumatisierten Ober- und Unterschenkel. H Unfallheilk. 232: 826-828.
Pfeil J. Technik der unilateralen Kallusdistraktion an Femur und Tibia. Operat Orthop Traumatol 1994a; 6: 1-8
Pfeil J. Unilaterale Fixateurmontage. Stuttgart: Thieme; 1994b
Saleh M. K-wire transfixation of tibia and fibula during lengthening. Pers Mitteil. 1990

19.1.15 Unterschenkelverlängerung mit Ringfixateur

Catagni M. Lenghtening of the tibia. In: Bianchi Maiocchi, A., J. Aronson: Operative Principles of Ilisarov. Milan: Medi Surgical Video; 1991: 288-309
Monticelli G, Spinelli R. Limb lengthening by closed metaphyseal corticotomy. Ital J Orthop Traumatol 1983; 4: 139-150
Pfeil J, Schneider E. Aktueller Stand der operativen Extremitätenverlängerung. Dtsch Ärztebl 1989; 86: 3090-3100
Pfeil J, Niethard FU. Unterschenkelverlängerung mit dem Ilisarovsystem: Darstellung der unterschiedlichen operativen Techniken und Analyse der 1986-1990 durchgeführten Unterschenkelverlängerungen. Orthopäde 1990; 19: 263-272
Pfeil J, Heijens E, Brunnengräber G. Verlängerungsosteotomien bei Beinlängendifferenzen. Orthopäde 2000; 29, 9: 775-786
Saleh, M. K-wire transfixation of tibia and fibula during lengthening. Pers Mitteil. 1990
Wagner H. Technik und Indikation der operativen Verkürzung und Verlängerung von Ober- und Unterschenkel. Orthopäde 1972; 1: 59-74

19.1.16 Unterschenkelkorrektur mit Ringfixateur

Herzenberg J, Waanders NA. Calculating rate and duration of distraction for deformity correction with the Ilisarov technique. Orthop Clin N Amer 1991; 22: 601-611
Ilisarov GA. Angular deformities with shortening. In: Coombs R, Green S, Sarmiento D: External Fixation and Function Bracing. Frederic, Aspen MD; 1989: 359-374
Ilisarov GA. Transosseus Osteosynthesis. Berlin: Springer; 1991
Paley D. The principles of deformity correction by the Ilisarov technique: technical aspects. Techn Orthop 1989; 4: 15-29
Paley D, Tetsworth K. Percutaneus osteotomies. Orthop Clin N Amer 1991; 22: 613-624
Paley D, Pfeil J. Principles of deformity correction around the knee. Orthopäde 2000; 29, 1: 18-38
Paley D. Principles of deformity correction. Berlin: Springer; 2002
Pauschert R., Pfeil J. Achskorrigierende Verlängerungen in unilateraler Technik. Orthop Prax 1993; 11: 737-742

19.2 Morbus Perthes

Terjesen T, Wiig O, Svenningsen S. The natural history of Perthes' disease: risk factors in 212 patients followed for 5 years. Acta Orthopaedica. 2010;81(6):708–714
Kim HK. Legg-Calvé-Perthes disease. J Am Acad Orthop Surg. 2010 Nov;18(11):676-686
Kim HK, da Cunha AM, Browne R, Kim HT, Herring JA. How much varus is optimal with proximal femoral osteotomy to preserve the femoral head in Legg-Calvé-Perthes disease? J Bone Joint Surg Am. 2011 Feb 16;93(4):341-347

19.3 Epiphyseolysis capitis femoris

Hefti F, Grill F. Kinderorthopädie in der Praxis, 2. Aufl. Berlin: Springer 2008
Loder RT, Dietz FR. What is the best evidence for the treatment of slipped capital femoral epiphysis? J Pediatr Orthop 2012 Sep;32 Suppl 2:S158-65

19.4 Muskulärer Schiefhals

Ling CM. The influence of age on the results of open sternomastoid tenotomy in muscular torticollis. Clin Orthop 1976; 116: 142
Miculicz J. Über die Exstirpation des Kopfnickers beim muskulären Schiefhals, nebst Bemerkungen zur Pathologie dieses Leidens. Zbl Chir 1885; 22: 1
Wirth CJ. Muskulärer Schiefhals. In: Bauer R, Kerschbaumer F, Poisel S: Orthopädische Operationslehre, Band I. Wirbelsäule. Stuttgart: Thieme; 1991

19.5 Kniebeugesehnen-verlängerung

Carstens C, Schmidt E, Fromm B, Schiltenwolf M. (1992): Ergebnisse der operativen Therapie von Kniebeugekontrakturen bei Patienten mit Myelomeningocele. Z Orthop 1992; 130: 207-212

Reimers J. Contracture of the hamstrings in spastic cerebral palsy. J Bone Joint Surg 1974; 56 B: 102

20 Eingriffe bei rheumatischen Erkrankungen

20.1 Grundlagen der orthopädischen Rheumatologie

Benjamin A, Helal B, Copeland S et al. Surgical Repair and Reconstruction in Rheumatoid Disease. Berlin: Springer; 1991

Crenshaw AH. Campbell's Operative Orthopaedics. St. Louis: Mosby; 1992

Fehr K, Miehle W, Schattenkirchner M et al. Rheumatologie in Klinik und Praxis. Stuttgart: Thieme; 1989

Kelley WN, Harris ED, Ruddy S et al. Textbook of Rheumatology. Philadelphia: Saunders; 1993

Krämer K-L, Stock M, Winter M. Klinikleitfaden Orthopädie. Neckarsulm: Jungjohann; 1993

Maddison PJ, Isenberg DA, Woo P et al. Oxford Textbook of Rheumatology. Oxford: Oxford University Press; 1993

Rehart S, Henniger M. Rheumatische Erkrankungen. Orthopädie und Unfallchirurgie up 2date 2007; 2: 101-124

Rehart S, Henniger M. Interdisziplinäres Management von muskuloskelettalen Erkrankungen. Orthopädie und Unfallchirurgie up2date 2010; 5: 265-278

20.2 Spezielle operative Verfahren an der Hand

Daecke W, Kaszap B, Martini AK et al. A prospective, randomized comparison of 3 types of proximal interphalangeal joint arthroplasty. J Hand Surg Am 2012; 37: 1770–1779

Flatt AE. Care of the Arthritic Hand. St. Louis: Mosby; 1983

Friedel R et al. Handgelenksendoprothetik. Ergebnisse der UTW-Prothese. Obere Extremität 2008, 3: 58–63

Krukhauf Y, Lie SA, Havelin LI et al. Results of 189 wrist replacements. A report from the Norwegian Arthroplasty register. Acta Orthop 2011, 82: 405–409

Mannerfelt L, Hohmann D, Uhlig R. Orthopädische Technik. Stuttgart: Enke; 1982

Murray PM, Linscheid RL, CooneyWP et al. Long-term outcomes of proximal interphalangeal joint surface replacement arthroplasty. J Bone Joint Surg Am 2012; 94: 1120–1128

Nicolle FV, Dickson RA. Surgery of the Rheumatoid Hand. London: Heinemann; 1979

Nydick JA, Greenberg SM, Stone JD et al. Clinical outcomes of total wrist arthroplasty. J Hand Surg Am 2012, 37: 1580–1584

Pettersson K et al. The Maestro Total Wrist – a two-year-follow up. J Hand Surg Eur 2011; E Suppl. 1: 50 (A- 0295)

Rehart S, Henniger M. Veränderungen an der Hand bei Erkrankungen aus dem rheumatischen Formenkreis (Die „rheumatische" Hand). In: Towfigh H, Hierner R, Langer M, Friedel R. Handchirurgie. Berlin: Springer; 2011

Rehart S, Sell S, Kurosch B et al. Hand. In: Sell S, Rehart S. Operationsatlas Orthopädische Rheumatologie. Stuttgart: Thieme; 2013

Rehart S, Henniger M, Scholz R. Rheumachirurgie. In: Siekmann H,Klima S. Operationsberichte Orthopädie. Berlin: Springer; 2013

Swanson AB, De Gloo T, Swanson G et al. Postoperative rehabilitation program in flexible implant arthroplasty of the digits. In: Hunter JM, Schneider LH, Mackin EJ et al. Rehabilitation of the Hand. St. Louis: Mosby; 1978

Swanson AB. Flexible implant arthroplasty for arthritic finger joints: Rationale, technique and results of treatment. J Bone Joint Surg 1972; 54 A: 435–455

Swanson AB. Flexible Implant Resection Arthroplasty in the Hand and Extremities. St. Louis: Mosby; 1973

Vainio K. Surgery of rheumatoid arthritis. Surg Ann 1974; 6: 309–335
Ward CM, Kuhl T, Adams BD. Five to ten- year outcomes of the Universal Total Wrist arthroplasty in patients with rheumatoid arthritis. J Bone Joint Surg Am 2011, 93: 914–919

20.3 Spezielle operative Verfahren am Fuß

Bouysset M, Tourne Y, Tillmann K. Foot and ankle in rheumatoid arthritis. New York: Springer; 2002
Fuhrmann RA. Die Behandlung der rheumatischen Fußdeformität. Orthopäde 2002; 31: 1187–1197
Rehart S, Sell S, Henniger M. Operative Interventionen am Vorfuß des Rheumatikers. In: Sabo D. Vorfußchirurgie. Berlin: Springer; 2012
Rehart S, Henniger M, Scholz R. Rheumachirurgie. In: Siekmann H,Klima S. Operationsberichte Orthopädie. Berlin: Springer; 2013
Sell S, Rehart S, Henniger M et al. Fuß. In: Sell S, Rehart S. Operationsatlas Orthopädische Rheumatologie. Stuttgart: Thieme; 2013