

1. Andritsch E, Beishon M, Bielack S, Bonvalot S, Casali P, Crul M, Delgado Bolton R, Donati DM, Douis H, Haas R, Hogendoorn P, Kozhaeva O, Lavender V, Lovey J, Negrouk A, Pereira P, Roca P, de Lempdes GR, Saarto T, van Berck B, Vassal G, Wartenberg M, Yared W, Costa A, Naredi P. ECCO Essential Requirements for Quality Cancer Care: Soft Tissue Sarcoma in Adults and Bone Sarcoma. A critical review. *Crit Rev Oncol Hematol* 2017 Feb;110:94-105. doi: 10.1016/j.critrevonc.2016.12.002.
2. <https://www.spine.org/Research-Clinical-Care/Research/Grades-of-Recommendation>
3. <https://www.spine.org/Portals/0/assets/downloads/ResearchClinicalCare/LevelsOfEvidence.pdf>
4. Mukherjee D, Chaichana KL, Gokaslan ZL, Aaronson O, Cheng JS, McGirt MJ : Survival of patients with malignant primary osseous spinal neoplasms : results from the Surveillance, Epidemiology, and End Results (SEER) database from 1973 to 2003. *J Neurosurg Spine* 14 : 143-150, 2011
5. Colby OitmentMD, FRCSCab AnthonyBozzoMDb Allan R.MartinMD, PhD, FRCSCc AnnaRienmullerMD, MSc ThorstenJentzschMD, MScad AhmedAoudeMD, FRCSCef PatrickThornleyMDb MichelleGhertMD, MSc, FRCSCbd RajaRampersaudMD. Primary sarcomas of the spine: population-based demographic and survival data in 107 spinal sarcomas over a 23-year period in Ontario, Canada. *The Spine Journal* Volume 21, Issue 2, February 2021, Pages 296-301
6. Heery CR. Chordoma: The Quest for Better Treatment Options. *Oncol Ther.* 2016;4(1):35-51. doi: 10.1007/s40487-016-0016-0. Epub 2016 Mar 3.
7. Boriani S. En bloc resection in the spine: a procedure of surgical oncology. *J Spine Surg* 2018;4(3):668-676.
8. Boriani S, Weinstein JN, Biagini R. Primary bone tumors of the spine. Terminology and surgical staging. *Spine (Phila Pa 1976)* 1997;22:1036-44.
9. Chan P, Boriani S, Fourney DR, et al. An assessment of the reliability of the Enneking and Weinstein-Boriani-Biagini classifications for staging of primary spinal tumors by the Spine Oncology Study Group. *Spine (Phila Pa 1976)* 2009;34:384-91.
10. Enneking WF, Spanier SS, Goodman MA. A system for the surgical staging of musculoskeletal sarcoma. *Clin Orthop Relat Res.* 1980 Nov-Dec;(153):106-20.
11. Tomita K, Kawahara N, Baba H, Tsuchiya H, Fujita T, Toribatake Y. Total en bloc spondylectomy. A new surgical technique for primary malignant vertebral tumors. *Spine (Phila Pa 1976).* 1997 Feb 1;22(3):324-33.

12. Wang Y, Zhang Y, Zhang X, Huang P, Xiao S, Wang Z, Liu Z, Liu B, Lu N, Mao K. A single posterior approach for multilevel modified vertebral column resection in adults with severe rigid congenital kyphoscoliosis: a retrospective study of 13 cases. *Eur Spine J.* 2008 Mar;17(3):361-372. doi: 10.1007/s00586-007-0566-9. Epub 2008 Jan 3.
13. Yan Wang, YongGang Zhang, XueSong Zhang, Zheng Wang, KeYa Mao, Cao Chen, GuoQuan Zheng, Gang Li, Kirkham B Wood. Posterior-only multilevel modified vertebral column resection for extremely severe Pott's kyphotic deformity. *Eur Spine J.* 2009 Oct;18(10):1436-41. doi: 10.1007/s00586-009-1067-9.
14. Grünewald TG, et al. Sarcoma treatment in the era of molecular medicine. *EMBO Mol Med.* 2020. PMID: 33047515
15. Brown HK, et al. Biology of Bone Sarcomas and New Therapeutic Developments. *Calcif Tissue Int.* 2018.
16. National Institute of Health and Care Excellence, 2006. Improving Outcomes for People with Sarcoma. <https://www.nice.org.uk/guidance/csg9/resources/improving-outcomes-for-people-with-sarcoma-update-773381485>.
17. Buhmann (Kirchoff) S, Becker Ch, Duerr HR, Reiser M, Baur-Melnyk A: Detection of osseous metastases of the spine: comparison of high resolution multi-detector-CT with MRI. *Eur J Radiol* 2009; 69: 567-573
18. P Sutcliffe, M Connock, D Shyangdan, R Court, N-B Kandala and A Clarke: A systematic review of evidence on malignant spinal metastases: natural history and technologies for identifying patients at high risk of vertebral fracture and spinal cord compression. *Health Technol Assess* 2013 Sep;17(42):1-274
19. P R Algra, J L Bloem, H Tissing, T H Falke, J W Arndt, L J Verboom: Detection of vertebral metastases: comparison between MR imaging and bone scintigraphy. *Radiographics* 1991; 11: 219-232
20. Kim, J. K., Learch, T. J., Colletti, P. M., Lee, J. W., Tran, S. D., & Terk, M. R. (2000). Diagnosis of vertebral metastasis, epidural metastasis, and malignant spinal cord compression: are T1-weighted sagittal images sufficient? *Magnetic Resonance Imaging*, 18(7), 819–824.
21. Venkitaraman, R., Sohaib, S. A., Barbachano, Y., Parker, C. C., Khoo, V., Huddart, R. A. Dearnaley, D. P. (2007). Detection of Occult Spinal Cord Compression with Magnetic Resonance Imaging of the Spine. *Clinical Oncology*, 19(7), 528–531
22. Bayley, A., Milosevic, M., Blend, R., Logue, J., Gospodarowicz, M., Boxen, I., Catton, P. (2001). A prospective study of factors predicting clinically occult spinal cord compression in patients with metastatic prostate carcinoma. *Cancer*, 92(2), 303–310
23. Mark H Bilsky 1, Ilya Laufer, Daryl R Fournery, Michael Groff, Meic H Schmidt, Peter Paul Varga, Frank D Vrionis, Yoshiya Yamada, Peter C Gerszten, Timothy R Kuklo: Reliability analysis of the epidural spinal cord compression scale. *J Neurosurg Spine.* 2010 Sep;13(3):324-8
24. Fournery, D. R., Frangou, E. M., Ryken, T. C., DiPaola, C. P., Shaffrey, C. I., Berven, S. H., Fisher, C. G. (2011). Spinal Instability Neoplastic Score: An Analysis of Reliability and Validity From the Spine Oncology Study Group. *Journal of Clinical Oncology*, 29(22), 3072–3077

25. Fisher, C. G., Schouten, R., Versteeg, A. L., Boriani, S., Varga, P., Rhines, L. D., ... Gokaslan, Z. L. (2014). Reliability of the Spinal Instability Neoplastic Score (SINS) among radiation oncologists: an assessment of instability secondary to spinal metastases. *Radiation Oncology*, 9(1), 69
26. *Oncotarget*. 2017 Sep 19; 8(41): 71095–71104. Differential diagnosis of hemangiomas from spinal osteolytic metastases using 3.0 T MRI: comparison of T1-weighted imaging, chemical-shift imaging, diffusion-weighted and contrast-enhanced imaging Yan-Jie Shi, Xiao-Ting Li, Xiao-Yan Zhang, Yu-Liang Liu, Lei Tang, and Ying-Shi Sun
27. Behrang Amini, Krina Patel, Richard M. Westmark, Kaye D. Westmark, and Anneliese Gonzalez. Approach to the Solitary Vertebral Lesion on Magnetic Resonance Imaging. *Radiology Key* 10.1055/b-0040-17686327
28. Yin H, Zhou W, Yu H, et al. Clinical characteristics and treatment options for two types of osteoblastoma in the mobile spine: a retrospective study of 32 cases and outcomes. *Eur Spine J*. 2014;23(2):411-416. doi:10.1007/s00586-013-3049-1
29. Veltri, A.; Bargellini, I.; Giorgi, L.; Almeida, P.A.M.S.; Akhan, O. CIRSE Guidelines on Percutaneous Needle Biopsy (PNB). *Cardiovasc. Interv. Radiol*. 2017, 40, 1501–1513
30. J Tehranzadeh, C Tao, C A Browning Percutaneous needle biopsy of the spine *Acta Radiol*. 2007 Oct;48(8):860-8
31. Ravikanth R. Diagnostic yield and technical aspects of fluoroscopy-guided percutaneous transpedicular biopsy of the spine: A single-center retrospective analysis of outcomes and review of the literature. *Journal of Craniovertebral Junction and Spine* 2020, 11(2):93
32. Schweitzer ME, Gannon FH, Deely DM, O'Hara BJ, Juneja V. Percutaneous skeletal aspiration and core biopsy: Complementary techniques. *AJR Am J Roentgenol* 1996;166:415-8
33. Yun Liang, Peng Liu, Li-bo Jiang, Hou-lei Wang, An-nan Hu, Xiao-gang Zhou, Xi-lei Li, Hong Lin, Dong Wu, Jian Dong, Value of CT-guided Core Needle Biopsy in Diagnosing Spinal Lesions: A Comparison Study *Orthop Surg*. 2019 Feb; 11(1): 60–65
34. Springfield DS, Rosenberg A. Biopsy: complicated and risky. *J Bone Joint Surg Am* . 1996 May;78(5):639-43.
35. WHO Classification of Tumours. 5th Edition. Soft Tissue and Bone Tumours. Lyon IARC 2020
36. Casali PG, Bielack S, Abecassis N, et al. Bone sarcomas: ESMO-PaedCan-EURACAN Clinical Practice Guidelines for diagnosis, treatment and follow-up. *Ann Oncol*. 2018 Oct 1;29(Supplement\_4):iv79-iv95. doi: 10.1093/annonc/mdy310.
37. Marina NM, Smeland S, Bielack SS et al. Comparison of MAPIE versus MAP in patients with a poor response to preoperative chemotherapy for newly diagnosed high-grade osteosarcoma (EURAMOS-1): an open-label, international, randomised controlled trial. *Lancet Oncol* 2016; 17 (10): 1396-1408
38. Whelan JS, Bielack SS, Marina N et al. EURAMOS-1, an international randomised study for osteosarcoma: results from pre-randomisation treatment. *Ann Oncol* 2015; 26 (2): 407-414
39. Ferrari S, Smeland S, Mercuri M et al. Neoadjuvant chemotherapy with high-dose Ifosfamide, high-dose methotrexate, cisplatin, and doxorubicin for patients with localized osteosarcoma of the extremity: a joint study by the Italian and Scandinavian Sarcoma Groups. *J Clin Oncol* 2005; 23 (34): 8845-8852
40. Bajpai J, Chandrasekharan A, Talreja V et al. Outcomes in non-metastatic treatment naive extremity osteosarcoma patients treated with a novel non-high dose methotrexate-based, dose-dense combination chemotherapy regimen 'OGS-12'. *Eur J Cancer* 2017; 85: 49-58

41. Piperno-Neumann S, Ray-Coquard I, Occean BV et al. Results of API-AI based regimen in osteosarcoma adult patients included in the French OS2006/Sarcome-09 study. *Int J Cancer* 2020; 146 (2): 413-423
42. Ferrari S, Bielack SS, Smeland S et al. EURO-B.O.S.S.: A European study on chemotherapy in bone-sarcoma patients aged over 40: Outcome in primary high-grade osteosarcoma. *Tumori* 2018; 104 (1): 30-36
43. Bielack SS, Smeland S, Whelan JS et al. Methotrexate, Doxorubicin, and Cisplatin (MAP) Plus Maintenance Pegylated Interferon Alfa-2b Versus MAP Alone in Patients With Resectable High-Grade Osteosarcoma and Good Histologic Response to Preoperative MAP: First Results of the EURAMOS-1 Good Response Randomized Controlled Trial. *J Clin Oncol* 2015; 33 (20): 2279-2287
44. van Doorninck JA, Ji L, Schaub B et al. Current treatment protocols have eliminated the prognostic advantage of type 1 fusions in Ewing sarcoma: a report from the Children's Oncology Group. *J Clin Oncol* 2010; 28 (12): 1989-1994
45. Schuck A, Ahrens S, Paulussen M et al. Local therapy in localized Ewing tumors: results of 1058 patients treated in the CESS 81, CESS 86, and EICESS 92 trials. *Int J Radiat Oncol Biol Phys* 2003; 55 (1): 168-177
46. Womer RB, West DC, Krailo MD et al. Randomized controlled trial of interval-compressed chemotherapy for the treatment of localized Ewing sarcoma: a report from the Children's Oncology Group. *J Clin Oncol* 2012; 30 (33): 4148-4154
47. Le Deley MC, Paulussen M, Lewis I et al. Cyclophosphamide compared with ifosfamide in consolidation treatment of standard-risk Ewing sarcoma: results of the randomized noninferiority Euro-EWING99-R1 trial. *J Clin Oncol* 2014; 32 (23): 2440-2448
48. Brennan B KL, Marec-Berard P, et al. Comparison of two chemotherapy regimens in Ewing sarcoma (ES): Overall and subgroup results of the Euro Ewing 2012 randomized trial (EE2012). *Journal of Clinical Oncology* 38, no. 15\_suppl (May 20, 2020) 11500-11500
49. DuBois SG, Krailo MD, Gebhardt MC et al. Comparative evaluation of local control strategies in localized Ewing sarcoma of bone: a report from the Children's Oncology Group. *Cancer* 2015; 121 (3): 467-475
50. Schuck A, Ahrens S, von Schorlemer I et al. Radiotherapy in Ewing tumors of the vertebrae: treatment results and local relapse analysis of the CESS 81/86 and EICESS 92 trials. *Int J Radiat Oncol Biol Phys* 2005; 63 (5): 1562-1567
51. DeLaney TF, Liebsch NJ, Pedlow FX et al. Long-term results of Phase II study of high dose photon/proton radiotherapy in the management of spine chordomas, chondrosarcomas, and other sarcomas. *J Surg Oncol* 2014; 110 (2): 115-122
52. Talac R, Yaszemski MJ, Currier BL, Fuchs B, Dekutoski MB, Kim CW, Sim FH. Relationship between surgical margins and local recurrence in sarcomas of the spine. *Clin Orthop Relat Res* 2002;397:127-32
53. Ruengwanichayakun P, Gambarotti M, Frisoni T et al. Parosteal osteosarcoma: a monocentric retrospective analysis of 195 patients. *Hum Pathol* 2019; 91: 11-18.
54. Fisher CG, Saravanja DD, Dvorak MF, Rampersaud YR, Clarkson PW, Hurlbert J, Fox R, Zhang H, Lewis S, Riaz S, Ferguson PC, Boyd MC. Surgical management of primary bone tumors of the spine: validation of an approach to enhance cure and reduce local recurrence. *Spine* 2011;36:830-6
55. Amendola L, Cappuccio M, De Iure F, Bandiera S, Gasbarrini A, Boriani S. En bloc resections for primary spinal tumors in 20 years of experience: effectiveness and safety. *Spine J.* 2014 Nov 1;14(11):2608-17
56. Sciubba DM, De la Garza Ramos R, Goodwin CR, Xu R, Bydon A, Witham TF, Gokaslan ZL, Wolinsky JP. Total en bloc spondylectomy for locally aggressive and primary malignant tumors of the lumbar spine. *Eur Spine J.* 2016 Dec;25(12):4080-4087

57. Luzzati AD, Shah S, Gagliano F, Perrucchini G, Scotto G, Alloisio M. Multilevel en bloc spondylectomy for tumors of the thoracic and lumbar spine is challenging but rewarding. *Clin Orthop Relat Res.* 2015 Mar;473(3):858-67
58. Goda JS, Ferguson PC, O'Sullivan B, Catton CN, Griffin AM, Wunder JS, Bell RS, Kandel RA, Chung PW. High-risk extracranial chondrosarcoma: long-term results of surgery and radiation therapy. *Cancer.* 2011 Jun 1;117(11):2513-9. doi: 10.1002/cncr.25806. Epub 2011 Jan 18
59. Noël G, Feuvret L, Ferrand R, Boisserie G, Mazon JJ, Habrand JL. Radiotherapeutic factors in the management of cervical-basal chordomas and chondrosarcomas. *Neurosurgery.* 2004 Dec;55(6):1252-60; discussion 1260-2. doi: 10.1227/01.neu.0000143330.30405.aa.
60. Ares C, Hug EB, Lomax AJ, Bolsi A, Timmermann B, Rutz HP, Schuller JC, Pedroni E, Goitein G. Effectiveness and safety of spot scanning proton radiation therapy for chordomas and chondrosarcomas of the skull base: first long-term report. *Int J Radiat Oncol Biol Phys.* 2009 Nov 15;75(4):1111-8. doi: 10.1016/j.ijrobp.2008.12.055. Epub 2009 Apr 20. PMID: 19386442
61. Hug, E. B., Loredó, L. N., Slater, J. D., Devries, A., Grove, R. I., Schaefer, R. A., Rosenberg, A. E., & Slater, J. M. (1999). Proton radiation therapy for chordomas and chondrosarcomas of the skull base, *Journal of Neurosurgery*, 91(3), 432-439, 1999. Retrieved Apr 10, 2021, from <https://thejns.org/view/journals/j-neurosurg/91/3/article-p432.xml>
62. Krochak R, Harwood AR, Cummings BJ, Quirt IC. Results of radical radiation for chondrosarcoma of bone. *Radiother Oncol.* 1983 Nov;1(2):109-15. doi: 10.1016/s0167-8140(83)80014-0. PMID: 6680216
63. McNaney D, Lindberg RD, Ayala AG, Barkley HT Jr, Hussey DH. Fifteen year radiotherapy experience with chondrosarcoma of bone. *Int J Radiat Oncol Biol Phys.* 1982 Feb;8(2):187-90. doi:10.1016/0360-3016(82)90512-0
64. Dekutoski MB, Clarke MJ, Rose P, Luzzati A, Rhines LD, Varga PP, Fisher CG, Chou D, Fehlings MG, Reynolds JJ, Williams R, Quraishi NA, Germscheid NM, Sciubba DM, Gokaslan ZL, Boriani S; AOSpine Knowledge Forum Tumor. Osteosarcoma of the spine: prognostic variables for local recurrence and overall survival, a multicenter ambispective study. *J Neurosurg Spine.* 2016 Jul;25(1):59-68. doi: 10.3171/2015.11.SPINE15870. Epub 2016 Mar 4
65. Pombo B, Cristina Ferreira A, Cardoso P, Oliveira A. Clinical effectiveness of Enneking appropriate versus Enneking inappropriate procedure in patients with primary osteosarcoma of the spine: a systematic review with meta-analysis. *Eur Spine J.* 2020 Feb;29(2):238-247
66. Ciernik IF, Niemierko A, Harmon DC et al. Proton-based radiotherapy for unresectable or incompletely resected osteosarcoma. *Cancer* 2011; 117 (19): 4522-4530
67. Matsunobu A, Imai R, Kamada T et al. Impact of carbon ion radiotherapy for unresectable osteosarcoma of the trunk. *Cancer* 2012; 118 (18): 4555-4563
68. Spałek MJ, Poleszczuk J, Czarnecka AM, Dudzisz-Śledź M, Napieralska A, Matysiakiewicz J, Chojnacka M, Raciborska A, Sztuder A, Maciejczyk A, Szulc A, Skóra T, Cybulska-Stopa B, Winiecki T, Kaźmierska J, Tomasik B, Fijuth J, Rutkowski P. Radiotherapy in the Management of Pediatric and Adult Osteosarcomas: A Multi-Institutional Cohort Analysis. *Cells.* 2021 Feb 10;10(2):366. doi: 10.3390/cells10020366
69. DeLaney TF, Park L, Goldberg SI, et al. Radiotherapy for local control of osteosarcoma. *Int J Radiat Oncol Biol Phys.* 2005 Feb 1;61(2):492-8. doi: 10.1016/j.ijrobp.2004.05.051
70. Nesbit ME Jr, Gehan EA, Burgert EO Jr, et al. Multimodal therapy for the management of primary, nonmetastatic Ewing's sarcoma of bone: a long-term follow-up of the First Intergroup study. *J Clin Oncol.* 1990 Oct;8(10):1664-74. doi: 10.1200/JCO.1990.8.10.1664

71. Foulon S, Brennan B, Gaspar N et al. Can postoperative radiotherapy be omitted in localised standard-risk Ewing sarcoma? An observational study of the Euro-E.W.I.N.G group. *Eur J Cancer* 2016; 61: 128-136.
72. Rombi B, DeLaney TF, MacDonald SM et al. Proton radiotherapy for pediatric Ewing's sarcoma: initial clinical outcomes. *Int J Radiat Oncol Biol Phys* 2012; 82 (3): 1142-1148
73. Gokaslan ZL, Zadnik PL, Sciubba DM, Germscheid N, Goodwin CR, Wolinsky JP, Bettegowda C, Groves ML, Luzzati A, Rhines LD, Fisher CG, Varga PP, Dekutoski MB, Clarke MJ, Fehlings MG, Quraishi NA, Chou D, Reynolds JJ, Williams RP, Kawahara N, Boriani S. Mobile spine chordoma: results of 166 patients from the AOSpine Knowledge Forum Tumor database. *J Neurosurg Spine*. 2016 Apr;24(4):644-51. doi: 10.3171/2015.7.SPINE15201. Epub 2015 Dec 18
74. Zhou J, Yang B, Wang X, et al. Comparison of the Effectiveness of Radiotherapy with Photons and Particles for Chordoma After Surgery: A Meta-Analysis. *World Neurosurg*. 2018 Sep;117:46-53. doi: 10.1016/j.wneu.2018.05.209. Epub 2018 Jun 5. PMID: 29879512
75. Rutz HP, Weber DC, Sugahara S, et al. Extracranial chordoma: Outcome in patients treated with function-preserving surgery followed by spot-scanning proton beam irradiation. *Int J Radiat Oncol Biol Phys*. 2007 Feb 1;67(2):512-20. doi: 10.1016/j.ijrobp.2006.08.052. Epub 2006 Nov 2. PMID: 17084540
76. Carpentier A, Polivka M, Blanquet A, et al., Suboccipital and cervical chordomas: the value of aggressive treatment at first presentation of the disease. *J Neurosurg*. 2002 Nov;97(5):1070-7. doi: 10.3171/jns.2002.97.5.1070. PMID: 12450028
77. Kabolizadeh P, Chen YL, Liebsch N, Hornicek FJ, Schwab JH, Choy E, Rosenthal DI, Niemierko A, DeLaney TF. Updated Outcome and Analysis of Tumor Response in Mobile Spine and Sacral Chordoma Treated With Definitive High-Dose Photon/Proton Radiation Therapy. *Int J Radiat Oncol Biol Phys*. 2017 Feb 1;97(2):254-262. doi: 10.1016/j.ijrobp.2016.10.006. Epub 2016 Oct 13. PMID: 27986348
78. Boriani S, Amendola L, Bandiera S, et al. Staging and treatment of osteoblastoma in the mobile spine: a review of 51 cases. *Eur Spine J*. 2012;21(10):2003-2010. doi:10.1007/s00586-012-2395-8
79. Cao S, Chen K, Jiang L, Wei F, Liu X, Liu Z. Intralesional Marginal Resection for Osteoblastoma in the Mobile Spine: Experience From a Single Center. *Front Surg*. 2022 Jun 6;9:838235. doi: 10.3389/fsurg.2022.838235. eCollection 2022
80. Versteeg AL, Dea N, Boriani S, Varga PP, Luzzati A, Fehlings MG, Bilsky MH, Rhines LD, Reynolds JJ, Dekutoski MB, Gokaslan ZL, Germscheid NM, Fisher CG. Surgical management of spinal osteoblastomas. *J Neurosurg Spine*. 2017 Sep;27(3):321-327. doi: 10.3171/2017.1.SPINE16788. Epub 2017 Jul 7
81. Ozsahin M, Tsang RW, Poortmans P, et al. Outcomes and patterns of failure in solitary plasmacytoma: a multicenter Rare Cancer Network study of 258 patients. *Int J Radiat Oncol Biol Phys*. 2006 Jan 1;64(1):210-7. doi: 10.1016/j.ijrobp.2005.06.039. Epub 2005 Oct 17. PMID: 16229966
82. Reed V, Shah J, Medeiros LJ, et al. Solitary plasmacytomas: outcome and prognostic factors after definitive radiation therapy. *Cancer*. 2011 Oct 1;117(19):4468-74. doi: 10.1002/cncr.26031. Epub 2011 Mar 22. PMID: 21437886
83. Frassica DA, Frassica FJ, Schray MF, et al. Solitary plasmacytoma of bone: Mayo Clinic experience. *Int J Radiat Oncol Biol Phys*. 1989 Jan;16(1):43-8. doi: 10.1016/0360-3016(89)90008-4. PMID: 2912957
84. Gouin F, Rochwerger AR, Di Marco A et al. Adjuvant treatment with zoledronic acid after extensive curettage for giant cell tumours of bone. *Eur J Cancer* 2014; 50 (14): 2425-2431
85. Chawla S, Blay JY, Rutkowski P et al. Denosumab in patients with giant-cell tumour of bone: a multicentre, open-label, phase 2 study. *Lancet Oncol* 2019; 20 (12): 1719-1729

86. Rutkowski P, Gaston L, Borkowska A, Stacchiotti S, Gelderblom H, Baldi GG, Palmerini E, Casali P, Gronchi A, Parry M, Campanacci DA, Scoccianti G, Wagrodzki M, Ferrari S, Dijkstra S, Pieńkowski A, Grimer R. Denosumab treatment of inoperable or locally advanced giant cell tumor of bone - Multicenter analysis outside clinical trial. *Eur J Surg Oncol*. 2018 Sep;44(9):1384-1390. doi: 10.1016/j.ejso.2018.03.020. Epub 2018 Mar 31. PMID: 29650420
87. Rutkowski P, Ferrari S, Grimer RJ, Stalley PD, Dijkstra SP, Pienkowski A, Vaz G, Wunder JS, Seeger LL, Feng A, Roberts ZJ, Bach BA. Surgical downstaging in an open-label phase II trial of denosumab in patients with giant cell tumor of bone. *Ann Surg Oncol*. 2015 Sep;22(9):2860-8. doi: 10.1245/s10434-015-4634-9. Epub 2015 Jun 2. PMID: 26033180; PMCID: PMC4531146.
88. Müther M, Schwake M, Suero Molina E, Schroeteler J, Stummer W, Klingenhöfer M, Ewelt C. Multiprofessional Management of Giant Cell Tumors in the Cervical Spine: A Systematic Review. *World Neurosurg*. 2021 Jul;151:53-60. doi: 10.1016/j.wneu.2021.04.006. Epub 2021 Apr 12. PMID: 33857672
89. Arun Kumar Gupta Pranjali Phukan Narendra Bodhey. Percutaneous vertebroplasty for the treatment of symptomatic vertebral hemangioma with long-term follow-up. *Interdisciplinary Neurosurgery* Volume 23, March 2021, 100968
90. Heyd R, Seegenschmiedt M.H, Rades D. et al. Radiotherapy for symptomatic vertebral hemangiomas: Results of a multicentric study and literature review. *Int J Radiat Oncol Biol Phys*. 2010; 77: 217-225
91. Kato S., Kawahara N., Murakami H., et al. Surgical management of aggressive vertebral hemangiomas causing spinal cord compression: long-term clinical follow-up of five cases. *Journal of Orthopaedic Science*. 2010;15(3):350–356. doi: 10.1007/s00776-010-1483-z.
92. Sagoo NS, Haider AS, Chen AL, Vannabouathong C, Larsen K, Sharma R, Palmisciano P, Alamer OB, Igbini M, Wells DB, Aoun SG, Passias PG, Vira S. Radiofrequency ablation for spinal osteoid osteoma: A systematic review of safety and treatment outcomes. *Surgical Oncology* Volume 41, May 2022, 101747
93. Izzo A, Zugaro L, Fascetti E, Bruno F, Zoccali C, Arrigoni F. Management of Osteoblastoma and Giant Osteoid Osteoma with Percutaneous Thermoablation Techniques. *J Clin Med*. 2021 Dec 7;10(24):5717. doi: 10.3390/jcm10245717
94. HISAKI AIBA, KATSUHIRO HAYASHI, HIROYUKI INATANI, YAMADA SATOSHI, NOBUYUKI WATANABE, HIRONARI SAKURAI, HIROYUKI TSUCHIYA and TAKANOBU OTSUKA Conservative Treatment for Patients with Osteoid Osteoma: A Case Series *Anticancer Research* July 2014, 34 (7) 3721-3725
95. Georgia Tsoumakidou, Marie-Aude Thénint, Julien Garnon, Xavier Buy, Jean-Paul Steib, Afshin Gangi. Percutaneous Image-guided Laser Photocoagulation of Spinal Osteoid Osteoma: A Single-Institution Series *Radiology* 2016 Mar;278(3):936-43
96. Liangliang Meng, Xiao Zhang, Ruijiang Xu, Bin Wu, Xiaobo Zhang, Yingtian Wei, Jing Li, Husheng Shan, Yueyong Xiao. A preliminary comparative study of percutaneous CT-guided cryoablation with surgical resection for osteoid osteoma *PeerJ* 2021 Jan 15;9:e10724
97. Ramakanth Yakkanti, Ikemefuna Onyekwelu, Leah Y. Carreon, and John R. Dimar, II Solitary Osteochondroma of the Spine—A Case Series: Review of Solitary Osteochondroma With Myelopathic Symptoms *Global Spine J*. 2018 Jun; 8(4): 323–339. Published online 2017 Jun 1. doi: 10.1177/2192568217701096 PMCID: PMC6022963 PMID: 29977716
98. Boriani S, De Iure F, Campanacci L, Gasbarrini A, Bandiera S, Biagini R et al (2001) Aneurysmal bone cyst of the mobile spine: report on 41 cases. *Spine (Phila Pa 1976)* 26:27–35

99. Zhao Y, He S, Sun H, Cai X, Gao X, Wang P, Wei H, Xu W, Xiao J. Symptomatic aneurysmal bone cysts of the spine: clinical features, surgical outcomes, and prognostic factors. *Eur Spine J.* 2019 Jun;28(6):1537-1545. doi: 10.1007/s00586-019-05920-7. Epub 2019 Mar 5.
100. Zileli M, Isik HS, Ogut FE, Is M, Cagli S, Calli C. Aneurysmal bone cysts of the spine. *Eur Spine J.* 2013 Mar;22(3):593-601. doi: 10.1007/s00586-012-2510-x. Epub 2012 Oct 1.
101. Parker J, Soltani S, Boissiere L, Obeid I, Gille O, Kieser DC. Spinal Aneurysmal Bone Cysts (ABCs): Optimal Management. *Orthop Res Rev.* 2019 Oct 24;11:159-166. doi: 10.2147/ORR.S211834. eCollection 2019
102. Khaled Elsayad, Jan Kriz, Heinrich Seegenschmiedt, Detlef Imhoff, Reinhard Heyd, Hans Theodor Eich, Oliver Micke. Radiotherapy for aneurysmal bone cysts : A rare indication. *Strahlenther Onkol.* 2017 Apr;193(4):332-340. doi: 10.1007/s00066-016-1085-6
103. Raphaële Charest-Morin, Charles G Fisher, Peter P Varga, Ziya L Gokaslan, Laurence D Rhines, Jeremy J Reynolds, Mark B Dekutoski, Nasir A Quraishi, Mark H Bilsky, Michael G Fehlings, Dean Chou, Niccole M Germscheid, Alessandro Luzzati, Stefano Boriani, AOSpine Knowledge Forum Tumor. En Bloc Resection Versus Intralesional Surgery in the Treatment of Giant Cell Tumor of the Spine. *Spine (Phila Pa 1976).* 2017 Sep 15;42(18):1383-1390
104. Panya Luksanapruksa, MD Jacob M. Buchowski, MD, MS Weerasak Singhatanadgige, MD, MS Peter C. Rose, MD David B. Bumpass, MD *The Spine Journal: Review Article| Volume 16, ISSUE 2, P259-269, February 01, 2016 Management of spinal giant cell tumors.*
105. Stefano Boriani, Riccardo Cecchinato, Fabrizio Cuzzocrea, Stefano Bandiera, Marco Gambarotti, Alessandro Gasbarrini. Denosumab in the treatment of giant cell tumor of the spine. Preliminary report, review of the literature and protocol proposal. *Eur Spine J.* 2020 Feb;29(2):257-271. doi: 10.1007/s00586-019-05997-0
106. Robert P Stanton, Ernesto Ippolito, Dempsey Springfield, Lynn Lindaman, Shlomo Wientroub, and Arabella Leet. The surgical management of fibrous dysplasia of bone. *Orphanet J Rare Dis.* 2012; 7(Suppl 1): S1.
107. Bobby Wirawan Hassan, Bong Ju Moon, Young-Jin Kim, Sang-Deok Kim, Ki-Young Choi, and Jung-Kil Lee. Langerhans cell histiocytosis in the adult lumbar spine: case report. *Springerplus.* 2016; 5(1): 1398.
108. Lunhao Chen, Zhong Chen, Yue Wang. Langerhans cell histiocytosis at L5 vertebra treated with en bloc vertebral resection: a case report. *World Journal of Surgical Oncology* volume 16, Article number: 96 (2018)
109. Sang-Deok Kim, Bong, JuMoon, Ki-Young Choi, Jung-Kil Lee. ; Primary Langerhans cell histiocytosis (LCH) in the adult cervical spine: A case report and review of the literature. *Interdisciplinary Neurosurgery* Volume 7, March 2017, Pages 56-58
110. Conti A, et al. Decision Making in Patients With Metastatic Spine. The Role of Minimally Invasive Treatment Modalities. *Front Oncol.* 2019 Sep 19;9:915. doi: 10.3389/fonc.2019.00915. PMID: 31608228; PMCID: PMC6761912
111. Ahmed AK, Goodwin CR, Heravi A, Kim R, Abu-Bonsrah N, Sankey E, Kerekes D, De la Garza Ramos R, Schwab J, Sciubba DM. Predicting survival for metastatic spine disease: a comparison of nine scoring systems. *Spine J.* 2018 Oct;18(10):1804-1814. doi: 10.1016/j.spinee.2018.03.011. Epub 2018 Mar 19. PMID: 29567516
112. Pennington Z, Ahmed AK, Westbroek EM, Cottrill E, Lubelski D, Goodwin ML, Sciubba DM. SINS Score and Stability: Evaluating the Need for Stabilization Within the Uncertain Category. *World Neurosurg.* 2019 Aug;128:e1034-e1047. doi: 10.1016/j.wneu.2019.05.067



113. Laufer I, Rubin DG, Lis E, Cox BW, Stubblefield MD, Yamada Y, Bilsky MH. The NOMS framework: approach to the treatment of spinal metastatic tumors. *Oncologist*. 2013 Jun;18(6):744-51. doi: 10.1634/theoncologist.2012-0293
114. Takagi T, Katagiri H, Kim Y, Suehara Y, Kubota D, Akaike K, Ishii M, Mukaihara K, Okubo T, Murata H, Takahashi M, Kaneko K, Saito T. Skeletal Metastasis of Unknown Primary Origin at the Initial Visit: A Retrospective Analysis of 286 Cases. *PLoS One*. 2015 Jun 26;10(6):e0129428
115. Vecht CJ, Haaxma-Reiche H, van Putten WL, de Visser M, Vries EP, Twijnstra A. Initial bolus of conventional versus high-dose dexamethasone in metastatic spinal cord compression. *Neurology* 1989 Sep;39(9):1255-7 Available from: <http://www.ncbi.nlm.nih.gov/pubmed/2771077>
116. Skeoch GD, Tobin MK, Khan S, Linninger AA, Mehta AI. Corticosteroid Treatment for Metastatic Spinal Cord Compression: A Review. *Global Spine J*. 2017;7(3):272-279. doi:10.1177/2192568217699189
117. Weber M, Kumar A. Spinal Metastases and Steroid Treatment: A Systematic Review. *Global Spine Journal*. 2015;5(1\_suppl):s-0035-1554325-s-0035-1554325. doi:10.1055/s-0035-1554325
118. Orenday-Barraza JM, Cavagnaro MJ, Avila MJ, Strouse IM, Dowell A, Kisana H, Khan N, Ravinsky R, Baaj AA. 10-Year Trends in the Surgical Management of Patients with Spinal Metastases: A Scoping Review. *World Neurosurg*. 2022 Jan;157:170-186.e3. doi: 10.1016/j.wneu.2021.10.086. Epub 2021 Oct 13. PMID: 34655822
119. Spiessberger A, Arvind V, Gruter B, Cho SK. Thoracolumbar corpectomy/spondylectomy for spinal metastasis: a pooled analysis comparing the outcome of seven different surgical approaches. *Eur Spine J*. 2020 Feb;29(2):248-256. doi: 10.1007/s00586-019-06179-8. Epub 2019 Oct 22. PMID: 31641907
120. Pennington Z, Ahmed AK, Molina CA, Ehresman J, Laufer I, Sciubba DM. Minimally invasive versus conventional spine surgery for vertebral metastases: a systematic review of the evidence. *Ann Transl Med*. 2018 Mar;6(6):103. doi: 10.21037/atm.2018.01.28. PMID: 29707552
121. Bermano IM, Carai A, Pawha P, Blacksbury S, Lo YC, Green S. Clinical outcome of vertebral compression fracture after single fraction spine radiosurgery for spinal metastases. *Clin Exp Metastasis*. 2016 Feb;33(2):143-9. doi: 10.1007/s10585-015-9764-8
122. Kato S, Demura S, Shinmura K, et al. Surgical Metastasectomy in the Spine: A Review Article. *Oncologist*. 2021;26(10):e1833-e1843. doi:10.1002/onco.13840
123. Domenicucci M, Nigro L, Delfini R. Total en-bloc spondylectomy through a posterior approach: technique and surgical outcome in thoracic metastases. *Acta Neurochir (Wien)*. 2018 Jul;160(7):1373-1376. doi:10.1007/s00701-018-3572-2. Epub 2018 May 28. PMID: 29808457
124. Tomita K, Kawahara N, Murakami H, Demura S: Total en bloc spondylectomy for spinal tumors: improvement of the technique and its associated basic background. *J Orthop Sci* 11: 3–12, 2006
125. Nas ÖF, İncikli MF, Hacı Kurt K, et al. Effectiveness of percutaneous vertebroplasty in patients with multiple myeloma having vertebral pain. *Diagn Interv Radiol*. 2016;22(3):263haci-268. doi:10.5152/dir.2016.15201
126. Papanastassiou ID, Vrionis FD. Is early vertebroplasty/kyphoplasty justified in multiple myeloma given the rapid vertebral fracture progression? *Spine J*. 2016 Jul;16(7):833-4. doi: 10.1016/j.spinee.2015.12.083
127. Fan Y, Zhou X, Wang H, Jiang P, Cai S, Zhang J, Liu Y. The timing of surgical intervention in the treatment of complete motor paralysis in patients with spinal metastasis. *Eur Spine J*. 2016 Dec;25(12):4060-4066. doi: 10.1007/s00586-016-4406-7

128. Laufer I, Zuckerman SL, Bird JE, Bilsky MH, Lazary A, Quraishi NA, et al. Predicting neurologic recovery after surgery in patients with deficits secondary to MESCC: systematic review. *Spine (Phila Pa 1976)*. 2016;41(Suppl 20):S224–S30
129. Boriani S, Tedesco G, Ming L, Ghermandi R, Amichetti M, Fossati P, Krenkli M, Mavilla L, Gasbarrini A. Carbon-fiber-reinforced PEEK fixation system in the treatment of spine tumors: a preliminary report. *Eur Spine J*. 2018 Apr;27(4):874-881. doi: 10.1007/s00586-017-5258-5
130. Theresa Krätzig, Klaus C. Mende, Malte Mohme, Helge Kniep, Marc Dreimann, Martin Stangenberg, Manfred Westphal, Tobias Gauer & Sven O. Eicker. Carbon fiber–reinforced PEEK versus titanium implants: an in vitro comparison of susceptibility artifacts in CT and MR imaging. *Neurosurgical Review* volume 44, pages2163–2170 (2021)
131. Trungu S, Ricciardi L, Forcato S, Scollato A, Minniti G, Miscusi M, Raco A. Anterior Corpectomy and Plating with Carbon-PEEK Instrumentation for Cervical Spinal Metastases: Clinical and Radiological Outcomes. *J Clin Med*. 2021 Dec 16;10(24):5910. doi: 10.3390/jcm10245910. PMID: 34945214 Free PMC article
132. Berjano P, Baroncini A, Cecchinato R, Langella F, Boriani S. En-bloc resection of a chordoma in L3 by a combined open posterior and less invasive retroperitoneal approach: technical description and case report. *Arch Orthop Trauma Surg*. 2021 Sep 25. doi: 10.1007/s00402-021-04177-4
133. Murthy NK, Wolinsky JP. Utility of carbon fiber instrumentation in spinal oncology. *Heliyon*. 2021 Aug 13;7(8):e07766. doi: 10.1016/j.heliyon.2021.e07766. eCollection 2021 Aug.
134. Wagner A, Haag E, Joerger AK, Jost P, Combs SE, Wostrack M, Gempt J, Meyer B. Comprehensive surgical treatment strategy for spinal metastases. *Sci Rep*. 2021 Apr 12;11(1):7988. doi: 10.1038/s41598-021-87121-1
135. Brookes MJ, Chan CD, Baljer B, Wimalagunaratna S, Crowley TP, Ragbir M, Irwin A, Gamie Z, Beckingsale T, Ghosh KM, Rankin KS. Surgical Advances in Osteosarcoma. *Cancers (Basel)*. 2021 Jan 21;13(3):388. doi: 10.3390/cancers13030388
136. Park, S., Lee, K., Lee, C., Jung, J. Y., Park, J. H., Kim, G., & Kim, K. (2020). Instrumented surgical treatment for metastatic spinal tumors: is fusion necessary?, *Journal of Neurosurgery: Spine SPI*, 32(3), 456-464
137. Hong, C.G., Cho, J.H., Suh, D.C. et al. Preoperative embolization in patients with metastatic spinal cord compression: mandatory or optional?. *World J Surg Oncol* 15, 45 (2017). <https://doi.org/10.1186/s12957-017-1118-3>
138. Ryu, S., et al. "Radiosurgery compared to external beam radiotherapy for localized spine metastasis: Phase III results of NRG Oncology/RTOG 0631." *International Journal of Radiation Oncology• Biology• Physics* 105.1 (2019): S2-S3
139. Husain ZA, Sahgal A, De Salles A, Funaro M, Glover J, Hayashi M, Hiraoka M, Levivier M, Ma L, Martínez-Alvarez R, Paddick JI, Régis J, Slotman BJ, Ryu S. Stereotactic body radiotherapy for de novo spinal metastases: systematic review. *J Neurosurg Spine*. 2017 Sep;27(3):295-302. doi: 10.3171/2017.1.SPINE16684. Epub 2017 Jun 9. PMID: 28598293
140. Palma, D. A., Olson, R., Harrow, S., et al.. Stereotactic Ablative Radiotherapy for the Comprehensive Treatment of Oligometastatic Cancers: Long-Term Results of the SABR-COMET Phase II Randomized Trial. *Journal of Clinical Oncology*, 2020
141. Myrehaug, Sten et al. "Reirradiation spine stereotactic body radiation therapy for spinal metastases: systematic review." *Journal of neurosurgery. Spine* vol. 27,4 (2017): 428-435. doi:10.3171/2017.2.SPINE16976

142. Sahgal A, Myrehaug SD, Siva S, Masucci L, Foote MC, Brundage M, Butler J, Chow E, Fehlings MG, Gabos Z, Greenspoon J, Kerba M, Lee YK, Liu MC, Maralani P, Thibault I, Wong R, Hum M, Ding K, Parulekar W. CCTG SC.24/TROG 17.06: A Randomized Phase II/III Study Comparing 24Gy in 2 Stereotactic Body Radiotherapy (SBRT) Fractions Versus 20Gy in 5 Conventional Palliative Radiotherapy (CRT) Fractions for Patients with Painful Spinal Metastases. *Int J Radiat Oncol Biol Phys*. 2020 Dec 1;108(5):1397-1398. doi: 10.1016/j.ijrobp.2020.09.019. Epub 2020 Nov 18. PMID: 33427654
143. Gerszten PC, Burton SA, Ozhasoglu C, Welch WC. Radiosurgery for spinal metastases: clinical experience in 500 cases from a single institution. *Spine*. 2007;32(2):193-199
144. Tao R, Bishop AJ, Brownlee Z, Allen PK, Settle SH, Chang EL, Wang X, Amini B, Tannir NM, Tatsui C, Rhines LD, Brown PD, Ghia AJ. Stereotactic Body Radiation Therapy for Spinal Metastases in the Postoperative Setting: A Secondary Analysis of Mature Phase 1-2 Trials. *Int J Radiat Oncol Biol Phys*. 2016 Aug 1;95(5):1405-1413. doi: 10.1016/j.ijrobp.2016.03.022. Epub 2016 Mar 25. PMID: 27209509
145. Ryu S, Pugh SL, Gerszten PC, et al. RTOG 0631 phase 2/3 study of image guided stereotactic radiosurgery for localized (1-3) spine metastases: phase 2 results. *Pract Radiat Oncol* 2014;4:76-81
146. Miller JA, Balagamwala EH, Berriochoa CA, Angelov L, Suh JH, Benzel EC, Mohammadi AM, Emch T, Magnelli A, Godley A, Qi P, Chao ST. The impact of decompression with instrumentation on local failure following spine stereotactic radiosurgery. *J Neurosurg Spine*. 2017 Oct;27(4):436-443. doi: 10.3171/2017.3.SPINE161015. Epub 2017 Jul 21. PMID: 28731393.
147. Spratt DE, Beeler WH, de Moraes FY, Rhines LD, Gemmete JJ, Chaudhary N, Shultz DB, Smith SR, Berlin A, Dahele M, Slotman BJ, Younge KC, Bilsky M, Park P, Szerlip NJ. An integrated multidisciplinary algorithm for the management of spinal metastases: an International Spine Oncology Consortium report. *Lancet Oncol*. 2017 Dec;18(12):e720-e730. doi: 10.1016/S1470-2045(17)30612-5. PMID: 29208438
148. Thirion PG, Dunne MT, Kelly PJ, Flavin A, O'Sullivan JM, Hacking D, Sasiadek W, Small C, Pomeroy MM, Martin J, McArdle O, Parker I, O'Sullivan LS, Shannon AM, Clayton-Lea A, Collins CD, Stevenson MR, Alvarez-Iglesias A, Armstrong JG, Moriarty M. Non-inferiority randomised phase 3 trial comparing two radiation schedules (single vs. five fractions) in malignant spinal cord compression. *Br J Cancer*. 2020 Apr;122(9):1315-1323. doi: 10.1038/s41416-020-0768-z. Epub 2020 Mar 11. PMID: 32157242; PMCID: PMC7188681
149. Roy A Patchell, Phillip A Tibbs, William F Regin, et al. Direct decompressive surgical resection in the treatment of spinal cord compression caused by metastatic cancer: a randomised trial. *Lancet*. 2005;366:643-648
150. George, Reena et al. "Interventions for the treatment of metastatic extradural spinal cord compression in adults." *The Cochrane database of systematic reviews* vol. 2015,9 CD006716. 4 Sep. 2015, doi:10.1002/14651858.CD006716.pub3
151. Di Perna G, Cofano F, Mantovani C, Badellino S, Marengo N, Ajello M, Comite LM, Palmieri G, Tartara F, Zenga F, Ricardi U, Garbossa D. Separation surgery for metastatic epidural spinal cord compression: A qualitative review. *J Bone Oncol*. 2020 Sep 26;25:100320. doi: 10.1016/j.jbo.2020.100320. PMID: 33088700; PMCID: PMC7559860
152. Barzilai, Ori et al. "Hybrid surgery-radiosurgery therapy for metastatic epidural spinal cord compression: A prospective evaluation using patient-reported outcomes." *Neuro-oncology practice* vol. 5,2 (2018): 104-113. doi:10.1093/nop/npx017

153. Itshayek E, Cohen JE, Yamada Y, et al. Timing of stereotactic radiosurgery and surgery and wound healing in patients with spinal tumors: a systematic review and expert opinions. *Neurol Res.* 2014;36:510–523. doi:10.1179/1743132814y.0000000380
154. Azad TD, Varshneya K, Herrick DB, Pendharkar AV, Ho AL, Stienen M, Zygourakis C, Bagshaw HP, Veeravagu A, Ratliff JK, Desai A. Timing of Adjuvant Radiation Therapy and Risk of Wound-Related Complications Among Patients With Spinal Metastatic Disease. *Global Spine J.* 2021 Jan;11(1):44-49. doi: 10.1177/2192568219889363. Epub 2019 Nov 22. PMID: 32875859; PMCID: PMC7734271
155. Degen JW, Gagnon GJ, Voyadzis JM, et al. CyberKnife stereotactic radiosurgical treatment of spinal tumors for pain control and quality of life. *J Neurosurg Spine.* 2005;2:540–549. doi:10.3171/spi.2005.2.5.0540
156. Roesch J, Cho JBC, Fahim DK, Gerszten PC, Flickinger JC, Grills IS, Jawad M, Kersh R, Letourneau D, Mantel F, Sahgal A, Shin JH, Winey B, Guckenberger M. Risk for surgical complications after previous stereotactic body radiotherapy of the spine. *Radiat Oncol.* 2017 Sep 11;12(1):153. doi: 10.1186/s13014-017-0887-8. PMID: 28893299; PMCID: PMC5594477
157. Versteeg AL, van der Velden JM, Hes J, Eppinga W, Kasperts N, Verkooijen HM, Oner FC, Seravalli E, Verlaan JJ. Stereotactic Radiotherapy Followed by Surgical Stabilization Within 24 h for Unstable Spinal Metastases; A Stage I/IIa Study According to the IDEAL Framework. *Front Oncol.* 2018 Dec 20;8:626. doi: 10.3389/fonc.2018.00626. PMID: 30619760; PMCID: PMC6306560
158. Lin P, Hsu F, Chen Y, Xiao F (2018) Neoadjuvant Stereotactic Body Radiation Therapy for Spine Metastases. *J Spine Neurosurg* 7:2. doi: 10.4172/2325-9701.1000298
159. Kumar N, Madhu S, Bohra H, Pandita N, Wang SSY, Lopez KG, Tan JH, Vellayappan BA. Is there an optimal timing between radiotherapy and surgery to reduce wound complications in metastatic spine disease? A systematic review. *Eur Spine J.* 2020 Dec;29(12):3080-3115. doi: 10.1007/s00586-020-06478-5. Epub 2020 Jun 15. PMID: 32556627
160. Lee RS, Batke J, Weir L, Dea N, Fisher CG. Timing of surgery and radiotherapy in the management of metastatic spine disease: expert opinion. *J Spine Surg.* 2018 Jun;4(2):368-373. doi: 10.21037/jss.2018.05.05. PMID: 30069530; PMCID: PMC6046325
161. Wang X, Yang JN, Li X, Tailor R, Vassilliev O, Brow P, et al. . Effect of spine hardware on small spinal stereotactic radiosurgery dosimetry. *Phys Med Biol.* (2013) 58:6733–47. 10.1088/0031-9155/58/19/6733