



Knowledge Forum

Tumor



Publication summary of AO Spine Knowledge Forum Tumor – The Epidemiology, Process, and Outcomes of Spine Oncology (EPOSO)

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Peer-reviewed Journal Articles

1. Versteeg AL, Sahgal A, Rhines LD, Sciubba DM, Schuster JM, Weber MH, Lazary A, Boriani S, Bettgowda C, Fehlings MG, Clarke MJ, Arnold PM, Gokaslan ZL, Fisher CG. *Health related quality of life outcomes following surgery and/or radiation for patients with potentially unstable spinal metastases*. The Spine Journal 21(3): 492-499, 2021.



2. Bond MR, Versteeg AL, Sahgal A, Rhines LD, Sciubba DM, Schuster JM, Weber MH, Fehlings MG, Lazary A, Clarke MJ, Boriani S, Bettgowda C, Arnold PM, Gokaslan ZL, Fisher CG. *Surgical or Radiation Therapy for the Treatment of Cervical Spine Metastases: Results From the Epidemiology, Process, and Outcomes of Spine Oncology (EPOSO) Cohort*. Global Spine J 10(1): 21-29, 2020.



3. Dea N, Versteeg AL, Sahgal A, Verlaan JJ, Charest-Morin R, Rhines LD, Sciubba DM, Schuster JM, Weber MH, Lazary A, Fehlings MG, Clarke MJ, Arnold PM, Boriani S, Bettgowda C, Laufer I, Gokaslan ZL, Fisher CG. *Metastatic Spine Disease: Should Patients With Short Life Expectancy Be Denied Surgical Care? An International Retrospective Cohort Study*. Neurosurgery 87(2): 303-311, 2020. **[Top International Spine Paper of the Year Award 2020]**



4. Barzilai O, Versteeg AL, Goodwin CR, Sahgal A, Rhines LD, Sciubba DM, Schuster JM, Weber MH, Lazary A, Fehlings MG, Clarke MJ, Arnold PM, Boriani S, Bettgowda C, Gokaslan ZL, Fisher CG, Laufer I. *Association of neurologic deficits with surgical outcomes and health-related quality of life after treatment for metastatic epidural spinal cord compression*. Cancer 125(23): 4224-4231, 2019.



5. Barzilai O, Versteeg AL, Sahgal A, Rhines LD, Bilsky MH, Sciubba DM, Schuster JM, Weber MH, Pal Varga P, Boriani S, Bettgowda C, Fehlings MG, Yamada Y, Clarke MJ, Arnold PM, Gokaslan ZL, Fisher CG, Laufer I, The AO Spine Knowledge Forum Tumor. *Survival, local control, and health-related quality of life in patients with oligometastatic and polymetastatic spinal tumors: A multicenter, international study*. Cancer 125(5): 770-778, 2019.



6. Charest-Morin R, Fisher CG, Versteeg AL, Sahgal A, Varga PP, Sciubba DM, Schuster JM, Weber MH, Clarke MJ, Rhines LD, Boriani S, Bettgowda C, Fehlings MG, Arnold PM, Gokaslan ZL, Dea N. *Clinical presentation, management and outcomes of sacral metastases: a multicenter, retrospective cohort study*. Ann Transl Med 7(10): 214, 2019.



7. Versteeg AL, Sahgal A, Kawahara N, Rhines LD, Sciubba DM, Weber MH, Lazary Á, Fehlings MG, Schuster JM, Clarke MJ, Arnold PM, Boriani S, Bettgowda C, Gokaslan ZL, Fisher CG. *Patient satisfaction with treatment outcomes after surgery and/or radiotherapy for spinal metastases*. Cancer 125(23): 4269-4277, 2019.



8. Versteeg AL, Sahgal A, Rhines LD, Sciubba DM, Schuster JM, Weber MH, Varga PP, Boriani S, Bettgowda C, Fehlings MG, Clarke MJ, Arnold PM, Gokaslan ZL, Fisher CG, AO Spine Knowledge Forum Tumor. *Psychometric evaluation and adaptation of the Spine Oncology Study Group Outcomes Questionnaire to evaluate health-related quality of life in patients with spinal metastases*. Cancer 124(8): 1828-1838, 2018. [AO Spine Europe Young Researcher Award 2018—First place]



Conference Proceedings

Podium Presentations

1. Karim M, Dea N, Versteeg A, Sahgal A, Verlaan J-J, Charest-Morin R, Rhines L, Sciubba D, Schuster J, Weber M, Lazary A, Fehlings M, Clarke M, Arnold P, Boriani S, Laufer I, Gokaslan Z, Fisher C. *Metastatic spine disease: Should patients with short life expectancy be denied surgical care? An international retrospective cohort study*. 20th Annual Scientific Conference of the Canadian Spine Society, Whistler, BC, Canada, February 26-29, 2020.

2. Versteeg A, Sahgal A, Rhines L, Sciubba D, Schuster J, Weber M, **Lazary A**, Boriani S, Bettgowda C, Fehlings M, Clarke M, Arnold P, Gokaslan Z, Fisher C. *Developing Therapeutic Guidance For Potentially Unstable Spinal Metastases By Evaluating Health Related Quality Of Life Outcomes For Surgery And/or Radiotherapy*. 14th Annual Meeting of the German Spine Society (DWG), Munich, Germany, November 28-30, 2019.

3. **Dea N**, Fisher CG, Charest-Morin R, Sahgal A, Verlaan JJ, Versteeg A. *Metastatic spine disease: Should patients with short life expectancy be denied surgical care?* North American Spine Society (NASS) 34th Annual Meeting 2019, Chicago, IL, USA, September 25-28, 2019.

4. **Barzilai O**, Versteeg A, Sahgal A, Rhines L, Bilsky M, Sciubba D, Schuster J, Weber M, Varga P, Boriani S, Bettgowda C, Fehlings M, Yamada Y, Clarke M, Arnold P, Gokaslan Z, Fisher C, Laufer I, The AO Spine Knowledge Forum Tumor. *Survival, Local Control, and Health Related Quality of Life in Oligometastatic and Polymetastatic Spinal Tumors: A Multicenter, International Study*. Global Spine Congress 2019, Toronto, ON, Canada, May 15-18, 2019.

5. **Barzilai O**, Versteeg AL, Goodwin CR, Sahgal A, Rhines LD, Sciubba DM, Schuster JM, Weber MH, Lazary A, Fehlings MG, Clarke MJ, Arnold PM, Boriani S, Bettgowda C, Gokaslan ZL, Fisher CG, Laufer I. *Impact of Neurologic Deficits on Surgical Outcomes and HRQoL Following Treatment for Metastatic Epidural Spinal Cord Compression*. Global Spine Congress 2019, Toronto, ON, Canada, May 15-18, 2019.

6. **Versteeg AL**, Sahgal A, Rhines L, Sciubba DM, Schuster JM, Weber MH, Lazary A, Boriani S, Bettgowda C, Fehlings MG, Clarke MJ, Arnold PM, Gokaslan ZL, Fisher CG. *Developing Therapeutic Guidance For Potentially Unstable Spinal Metastases By Evaluating Health Related Quality Of Life Outcomes For Surgery And/or Radiotherapy*. Global Spine Congress 2019 Toronto, ON, Canada, May 15-18, 2019.

7. Versteeg A, Sahgal A, Rhines L, Sciubba D, Schuster J, Weber M, Lazary A, Boriani S, Bettgowda C, Fehlings M, Clarke M, Arnold P, Gokaslan Z, **Fisher C.** *Patient Satisfaction After Surgery and/or Radiotherapy for Metastatic Spine Disease.* 19th Annual Scientific Conference of the Canadian Spine Society, Toronto, ON, Canada, February 27-March 2, 2019.
8. Versteeg A, Sahgal A, Rhines L, Sciubba D, Schuster J, Weber M, Lazary A, Boriani S, Bettgowda C, Fehlings M, Clarke M, Arnold P, Gokaslan Z, **Fisher C.** *Developing Therapeutic Guidance for Potentially Unstable Spinal Metastases by Evaluating Health Related Quality of Life Outcomes for Surgery And/or Radiotherapy.* 19th Annual Scientific Conference of the Canadian Spine Society, Toronto, ON, Canada, February 27-March 2, 2019.
9. **Barzilai O,** Versteeg A, Sahgal A, Rhines L, Bilsky M, Sciubba D, Schuster J, Webber M, Varga P, Boriani S, Bettgowda C, Fehlings M, Yamada Y, Clarke M, Arnold P, Gokaslan Z, Fisher C, Laufer I. *Survival, local control, and health related quality of life in oligometastatic and polymetastatic spinal tumors: A multicenter, international study* 23rd Annual Meeting and Education Day of the Society for Neuro-Oncology, New Orleans, LA, USA, November 15, 2018. [**Top-scoring abstract**]
10. **Versteeg A,** Sahgal A, Rhines LD, Sciubba DM, Schuster JM, Bettgowda C, Fehlings MG, Clarke MJ, Arnold PM, Gokaslan ZL, Fisher CG. *A multicenter prospective cohort study evaluating quality of life after radiation or surgery for potentially unstable spinal metastases.* North American Spine Society (NASS) 33rd Annual Meeting 2018, Los Angeles, CA, USA, September 26-29, 2018. [**Nominated for NASS 2018 Value Award**]
11. **Sahgal A,** Versteeg AL, Rhines LD, Sciubba DM, Schuster JM, Weber MH, Varga PP, Boriani S, Bettgowda C, Fehlings MG, Clarke MJ, Arnold PM, Gokaslan ZL, Fisher CG, The AO Spine Knowledge Forum Tumor. *A multicenter prospective cohort study evaluating quality of life after radiation or surgery for potentially unstable spinal metastases.* CARO 2018 (Canadian Association of Radiation Oncology), Montreal, QC, Canada, September 12-15, 2018.
12. **Aoude A,** Versteeg A, Weber M, Sahgal A, Varga P, Sciubba D, Schuster J, Clarke M, Rhines L, Boriani S, Bettgowda C, Fehlings M, Arnold P, Gokaslan Z, Fisher C. *Steroids for the management of neurological deficits in patients undergoing surgical treatment for metastatic spine disease: a prospective case series.* Global Spine Congress 2018, Singapore, Singapore, May 2-5, 2018.
13. **Bond M,** Versteeg A, Sahgal A, Varga P, Sciubba D, Schuster J, Weber M, Clarke M, Rhines L, Boriani S, Bettgowda C, Fehlings M, Arnold P, Gokaslan Z, Fisher C. *Evidence from the Epidemiology, Process and Outcomes of Spine Oncology (EPOS0) cohort: Surgical versus Radiation Therapy for the Treatment of Cervical Metastases.* Global Spine Congress 2018, Singapore, Singapore, May 2-5, 2018.
14. **Charest-Morin R,** Dea N, Versteeg AL, Sahgal A, Varga PP, Sciubba DM, Schuster JM, Weber MH, Clarke MJ, Rhines LD, Boriani S, Bettgowda C, Fehlings MG, Arnold PM, Gokaslan ZL, Fisher CG. *Sacral Metastases: A clinical case series from the Epidemiology, Process and Outcomes of Spine Oncology (EPOS0) dataset.* Global Spine Congress 2018, Singapore, Singapore, May 2-5, 2018.
15. **Versteeg AL,** Sahgal A, Rhines LD, Sciubba DM, Schuster JM, Weber M, Fehlings MG, Clarke MJ, Arnold PM, Gokaslan ZL, Fisher CG, The AO Spine Knowledge Forum Tumor. *The refined Spine Oncology Study Group Outcome Questionnaire2.0 (SOSGOQ2.0): a reliable and valid disease-specific outcome measure* Global Spine Congress 2018, Singapore, Singapore, May 2-5, 2018.
16. Bond M, Versteeg A, Sahgal A, Varga P, Sciubba D, Schuster J, Weber M, Clarke M, Rhines L, Boriani S, Bettgowda C, Fehlings M, Arnold P, Gokaslan Z, Fisher C. *Evidence from the Epidemiology, Process and Outcomes of Spine Oncology (EPOS0) cohort: Surgical versus Radiation Therapy for the Treatment of Cervical Metastases.* Spine Summit 2018—34th Annual Meeting of the Section on Disorders of the Spine and Peripheral Nerves, Orlando, FL, USA, March 14-17, 2018. [**Best Presentation Abstract Award**]

17. Bond M, Versteeg A, Sahgal A, Varga P, Sciubba D, Schuster J, Weber M, Clarke M, Rhines L, Boriani S, Bettegowda C, Fehlings M, Arnold P, Gokaslan Z, Fisher C. *Evidence from the Epidemiology, Process and Outcomes of Spine Oncology (EPOSO) cohort: Surgical versus Radiation Therapy for the Treatment of Cervical Metastases*. 18th Annual Scientific Conference of the Canadian Spine Society (CSS) 2018, Banff, AB, Canada, February 28–March 3, 2018. **[Best Paper Award]**
18. **Versteeg A**, Fisher CG, Gokaslan ZL, Rhines LD, Clarke MJ, Sciubba DM, Schuster JM, Fehlings MG, Arnold PM, Sahgal A, The AO Spine Knowledge Forum Tumor. *Construct validity and test-retest reliability of the Spine Oncology Study Group Outcomes Questionnaire (SOSGOQ)*. North American Spine Society (NASS) 32nd Annual Meeting 2017, Orlando, FL, USA, October 25-28, 2017.
19. **Dea N**, Versteeg AL, Sahgal A, Rhines LD, Sciubba DM, Schuster JM, Weber M, Fehlings MG, Clarke MJ, Arnold PM, Gokaslan ZL, Fisher CG, The AO Spine Knowledge Forum Tumor. *Construct validity and test-retest reliability of the Spine Oncology Study Group Outcomes Questionnaire (SOSGOQ)*. EuroSpine 2017, Dublin, Ireland, October 11-13, 2017.
20. Versteeg A, Sahgal A, Rhines LD, **Sciubba DM**, Schuster J, Weber M, Fehlings MG, Clarke M, Arnold P, Gokaslan ZL, Fisher CG, The AO Spine Knowledge Forum Tumor. *The Spine Oncology Study Group Outcomes Questionnaire (SOSGOQ): Analysis of validity and test-retest reliability*. 24th International Meeting on Advanced Spine Techniques (IMAST), Cape Town, South Africa, July 12-15, 2017.
21. **Versteeg AL**, Sahgal A, Rhines LD, Sciubba DM, Schuster JM, Weber M, Fehlings MG, Clarke MJ, Arnold PM, Gokaslan ZL, Fisher CG, The AO Spine Knowledge Forum Tumor. *Validity and Reliability of the Spine Oncology Study Group Outcomes Questionnaire (SOSGOQ)*. Global Spine Congress 2017, Milan, Italy, May 3-6, 2017.
22. Versteeg AL, Sahgal A, **Lazary A**, Rhines LD, Sciubba DM, Schuster JM, Weber M, Fehlings MG, Clarke MJ, Arnold PM, Gokaslan ZL, Fisher CG, The AO Spine Knowledge Forum Tumor. *Spine Oncology Study Group Outcomes Questionnaire: a valid and reliable patient reported outcome measure for spine oncology patients*. 30th European Musculo-Skeletal Oncology Society (EMSOS), Budapest, Hungary, Apr 26-28, 2017. **[Best Oral Presentation Award EMSOS2017]**
23. Versteeg AL, Sahgal A, Rhines LD, **Sciubba DM**, Schuster JM, Weber M, Fehlings MG, Clarke MJ, Arnold PM, Gokaslan ZL, Fisher CG, The AO Spine Knowledge Forum Tumor. *Construct validity and test-retest reliability of the Spine Oncology Study Group Outcomes Questionnaire (SOSGOQ)*. 85th American Association of Neurological Surgeons (AANS) Annual Scientific Meeting 2017, Los Angeles, CA, USA, Apr 22-26, 2017.
24. **Versteeg AL**, Sahgal A, Rhines LD, Sciubba DM, Schuster JM, Weber M, Fehlings MG, Clarke MJ, Arnold PM, Gokaslan ZL, Fisher CG, The AO Spine Knowledge Forum Tumor. *Validity and test-retest reliability of the Spine Oncology Study Group Outcomes Questionnaire*. 17th Annual Scientific Conference of the Canadian Spine Society (CSS), Montreal, Quebec, Canada, Feb 22-25, 2017.

Poster Presentations

1. Versteeg A, Sahgal A, Rhines L, Sciubba D, Schuster J, Weber M, **Lazáry A**, Boriani S, Bettegowda C, Fehlings M, Clarke M, Arnold P, Gokaslan Z, Fisher C. *Patient Satisfaction After Surgery And/or Radiotherapy For Metastatic Spine Disease*. 14th Annual Meeting of the German Spine Society (DWG), Munich, Germany, November 28-30, 2019. **[2nd BEST POSTER Award]**
2. Versteeg AL, Dea N, Sahgal A, Rhines L, Sciubba DM, Schuster JM, Weber MH, **Lazáry A**, Boriani S, Bettegowda C, Fehlings MG, Clarke MJ, Arnold PM, Gokaslan ZL, Fisher CG. *Surgery for spinal metastases in patients surviving less than three months; is it worthwhile?* 14th Annual Meeting of the German Spine Society (DWG), Munich, Germany, November 28-30, 2019.

3. Dea N, Versteeg A, Sahgal A, Verlaan JJ, Charest-Morin R, Rhines L, Sciubba D, Schuster J, Weber M, Lazary A, Fehlings M, Clarke M, Arnold P, Boriani S, Bettgowda C, Laufer I, Gokaslan Z, Fisher C. *Metastatic spine disease: Should patients with short life expectancy be denied surgical care?* Congress of Neurological Surgeons (CNS) Annual Meeting, San Francisco, CA, USA, October 19-23, 2019.
4. Versteeg A, Sahgal A, Kawahara N, Rhines L, Sciubba D, Weber M, Lazary A, Fehlings M, Schuster J, Clarke M, Arnold P, Boriani S, Bettgowda C, Gokaslan Z, Fisher C. *Patient satisfaction with treatment outcomes after surgery and/or radiotherapy for spinal metastases.* Congress of Neurological Surgeons (CNS) Annual Meeting, San Francisco, CA, USA, October 19-23, 2019.
5. Versteeg A, Sahgal A, Rhines L, Sciubba D, Schuster J, Weber M, Lazary A, Boriani S, Bettgowda C, Fehlings M, Clarke M, Arnold P, Gokaslan Z, Fisher C. *Developing therapeutic guidance for potentially unstable spinal metastases by evaluating health related quality of life outcomes for surgery and/or radiotherapy.* Congress of Neurological Surgeons (CNS) Annual Meeting, San Francisco, CA, USA, October 19-23, 2019.
6. **Versteeg AL**, Dea N, Sahgal A, Rhines L, Sciubba DM, Schuster JM, Weber MH, Lazary A, Boriani S, Bettgowda C, Fehlings MG, Clarke MJ, Arnold PM, Gokaslan ZL, Fisher CG. *Surgery for spinal metastases in patients surviving less than three months; is it worthwhile?* Global Spine Congress 2019 Toronto, ON, Canada, May 15-18, 2019.
7. **Versteeg AL**, Sahgal A, Rhines L, Sciubba DM, Schuster JM, Weber MH, Lazary A, Boriani S, Bettgowda C, Fehlings MG, Clarke MJ, Arnold PM, Gokaslan ZL, Fisher CG. *Patient Satisfaction After Surgery And/or Radiotherapy For Metastatic Spine Disease.* Global Spine Congress 2019, Toronto, ON, Canada, May 15-18, 2019.
8. **Sahgal A**, Versteeg AL, Rhines LD, Sciubba DM, Schuster JM, Weber MH, Varga PP, Boriani S, Bettgowda C, Fehlings MG, Clarke MJ, Arnold PM, Gokaslan ZL, Fisher CG, The AO Spine Knowledge Forum Tumor. *A multicenter prospective cohort study evaluating quality of life after radiation or surgery for potentially unstable spinal metastases.* American Society for Radiation Oncology (ASTRO) 60th Annual Meeting 2018, San Antonio, TX, USA, October 21-24, 2018.
9. **Barzilai O**, Versteeg A, Sahgal A, Rhines L, Sciubba D, Bilsky M, Schuster J, Weber M, Varga P, Boriani S, Bettgowda C, Fehlings M, Clarke M, Arnold P, Gokaslan Z, Fisher C, Laufer I. *Survival, Local Control, and Health Related Quality of Life in Oligometastatic and Polymetastatic Spinal Tumors: A Multicenter, International Study.* Congress of Neurological Surgeons (CNS) Annual Meeting, Houston, TX, US, October 6-10, 2018.
10. **Charest-Morin R**, Fisher C, Versteeg A, Sahgal A, Varga P, Sciubba D, Clarke M, Rhines L, Boriani S, Bettgowda C, Fehlings M, Arnold P, Gokaslan Z, Dea N. *Clinical presentation, management and outcomes of sacral metastases: a multicentre, prospective case series.* Congress of Neurological Surgeons (CNS) Annual Meeting, Houston, TX, USA, October 6-10, 2018.
11. Bond M, Versteeg A, Sahgal A, Varga P, Sciubba D, Clarke M, Rhines L, Boriani S, Fehlings M, Arnold P, Fisher C. *Evidence from the Epidemiology, Process and Outcomes of Spine Oncology (EPOS) Cohort: Surgical versus Radiation Therapy for the Treatment of Cervical Metastases.* North American Spine Society (NASS) 33rd Annual Meeting, Los Angeles, CA, USA, September 26-29, 2018.
12. Charest-Morin R, Fisher C, Versteeg A, Sahgal A, Varga P, Sciubba D, Clarke M, Rhines L, Boriani S, Bettgowda C, Fehlings M, Arnold P, Gokaslan Z, Dea N. *Clinical presentation, management and outcomes of sacral metastases: a multicentre, prospective case series.* North American Spine Society (NASS) 33rd Annual Meeting 2018, Los Angeles, CA, USA, September 26-29, 2018.
13. Bond M, Versteeg A, Sahgal A, Varga P, Sciubba D, Schuster J, Weber M, Clarke M, Rhines L, Boriani S, Bettgowda C, Fehlings M, Arnold P, Gokaslan Z, Fisher C. *Evidence from the Epidemiology, Process and Outcomes of Spine Oncology (EPOS) cohort: Surgical versus Radiation Therapy for the Treatment of Cervical Metastases.* 86th American Association of Neurological Surgeons (AANS) Annual Scientific Meeting 2018, New Orleans, LA, USA, April 28-May 2, 2018.

14. Charest-Morin R, Dea N, Versteeg AL, Sahgal A, Varga PP, Sciubba DM, Schuster JM, Weber MH, Clarke MJ, Rhines LD, Boriani S, Bettgowda C, Fehlings MG, Arnold PM, Gokaslan ZL, Fisher CG. *Clinical presentation, management, and outcomes of sacral metastases: a multicentre, prospective case series*. 18th Annual Scientific Conference of the Canadian Spine Society (CSS), Banff, AB, Canada, February 28-March 3, 2018.