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CORR Insights®: How Much Tumor Surgery Do Early-career Orthopaedic Oncologists Perform?

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Where Are We Now?

The study by Miller and colleagues reviews the practice pattern of early career orthopaedic oncologists with somewhat discouraging results [4]. The authors polled and reviewed case logs of 15 fellowship-trained Musculoskeletal Tumor Society (MSTS) members who

were in their first 4 years of practice (out of 33 total members). However, it should be noted that there are currently 14 musculoskeletal tumor fellowships in the official match, and that several of these accept more than one fellow. In a 4-year period, these fellowships would generate at least 56 potentially early career surgeons. The cohort in this study is only a small fraction of those fellowship participants. It is likely that those fellows who have shown success in the oncology field joined the MSTS. It is also likely that of those, the more successful orthopaedic oncologists were study participants. Even with that as background, surgeons in this study reported performing a median of only 23 sarcoma cases per surgeon annually, with only 60% of their cases related to orthopaedic oncology.

Orthopaedic oncology has become a multidisciplinary specialty. We interact with musculoskeletal radiology and

pathology at a minimum, and often include a larger multidisciplinary team with dedicated specialists when managing sarcomas [1]. As a result, orthopaedic oncologists largely practice in academic centers [6]. Primary musculoskeletal tumors are rare, and we are training fellows at a rate which bears little resemblance to workforce needs. There are currently 275 members of the MSTS; even if we assume all of them are doing sufficient orthopaedic oncology for skill maintenance in an adequately supported practice environment – at the conservatively estimated rate of 14 fellows annually, we are training almost twice as many as needed to replace the current cohort. This is, of course, assuming that we are not currently oversupplied, which is debatable [6]. We are training far too many surgeons for a limited number of positions, and creating a situation in which we are fostering decentralization of tumor care, contrary to contemporary best practices.

This CORR Insights® is a commentary on the article “How Much Tumor Surgery Do Early-career Orthopaedic Oncologists Perform?” by Miller and colleagues available at: DOI: [10.1007/s11999-014-3934-x](https://doi.org/10.1007/s11999-014-3934-x).

The author certifies that she, or any member of her immediate family, has no funding or commercial associations (eg, consultancies, stock ownership, equity interest, patent/licensing arrangements, etc) that might pose a conflict of interest in connection with the submitted article.

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This CORR Insights® comment refers to the article available at DOI: [10.1007/s11999-014-3934-x](https://doi.org/10.1007/s11999-014-3934-x).

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Where Do We Need To Go?

While national organizers of graduate medical education are looking to trim

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the length of medical education, in orthopaedic surgery we are extending it. Only one respondent in the current study had completed a second fellowship, in contrast to the 35% of orthopaedic oncologists reported elsewhere [6]. Miller and colleagues encourage orthopaedic oncologists to prepare to “supplement a tumor practice with other subspecialty procedures both initially and throughout their career.” They do not say how, although perhaps this is an unobvious recommendation for additional subspecialty training.

Meanwhile, with the aging of the population and the increased survival of cancer patients due to improved chemotherapy regimens, we have an increasing need for metastatic spine cancer procedures [7]. The spine is one of the most common sites of metastatic disease, with spinal cord compression occurring in as high as 5% of all cancer patients [2]. Additional surgical needs are that of symptomatic relief of metastatic compression fractures, treatment of instability secondary to tumor involvement, and resection of primary spine sarcoma. Surgical spine practice is conducted in neurosurgical and orthopaedic spine surgeon silos due to specialized training and malpractice premiums. Oncologic spine surgical patients have a far higher complication and mortality rate [3] compared to other surgical cohorts.

However, there were no spine surgical procedures performed by anyone in the Miller and colleagues group. The orthopaedic oncologists – who presumably are in the best position to understand the nuances of tumor biology, chemotherapy, radiosensitivity, function and prognosis of cancer patients – are conspicuously absent from the table.

We do need expert oncologic spine surgeons. Neoplastic disease takes a back seat in the spine community at large. Review of the preliminary program of the North American Spine Society’s planned meeting for 2014 [5] showed an absence of any tumor topics in the workshops, symposia, “21 best papers,” or focused discussions.

How Do We Get There?

What is the solution to the dramatic oversupply of orthopaedic oncologists in the pipeline and the dearth of leadership in oncology in the spine surgery community? In addition to the obvious need to offer fewer fellowships, we need to look for ways to combine training. Two sequential fellowships are a suboptimal solution. Residents completing training, often with considerable debt, are not looking to delay income generating potential another year. The easily portable spouses and

families needed to relocate for two temporary assignments are rare in the contemporary world.

If we cannot (or choose not to) reduce the annual production of orthopaedic oncology fellows, we could at least improve their opportunities and usefulness by providing additional spine training. Why not consider creating a combined oncology/spine fellowship, where aspiring academic surgeons can learn spine surgery as well as orthopaedic oncology? Rather than simply tacking 2 years together, thought could be given to condensing and optimizing the entire fellowship training period to 18 months, similar to currently available upper extremity-shoulder-hand fellowships. Miller and colleagues have laid down the gauntlet. We have a problem. Educators in orthopaedic oncology must respond.

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