**SUPPLEMENTAL INFO – SURVEY QUESTIONS**

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| **1. What is your specialty** |
| a. Neurosurgery |
| b. Orthopaedic Surgery |

**2. How would you describe your practice setting?**

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| a. Academic University Employed |
| b. Academic Hospital Employed |
| c. Academic Private Practice |
| d. Hospital Employed |
| e. Private Employed |

**3. How many years have you been practicing post-residency and/or fellowship?**

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| a. 0-2 years |
| b. 2-5 years |
| c. 5-15 years |
| d. 15+ years |

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| **4. What percentage of your surgical practice consists of treating patients with cervical disorders?** |
| a. < 5% |
| b. 5-20% |
| c. 20-50% |
| d. 50-75% |
| e. > 75% |

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| **5. How often do you perform operations for cervical spinal deformity correction? Please note that this does not include multilevel fusions for radiculopathy or myelopathy alone, unless an explicit goal of the operation is to perform a realignment of the cervical spine.** |
| a.     > 1 / week |
| b.     ~ 1 / week |
| c.     2x / month |
| d.     ~ 1 / month |
| e.     ~ 1 every 3 months |
| f.      ~ 1 every 6 months |
| g.     ~1 per year |
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| **6. Is a C2-C7 SVA > 4cm, by itself, sufficient to establish a diagnosis of cervical deformity? Assume there is no thoracolumbar deformity that would increase the C2-C7 SVA.** |
| a.     Yes |
| b.     No |
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| **7. Is a C2-C7 kyphosis Cobb angle of > 10 degrees, by itself, sufficient to establish a diagnosis of cervical deformity?** |
| a.     Yes |
| b.     No |
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| **8. Is a chin brow vertical angle (CBVA) of > 25 degrees, by itself, sufficient to establish a diagnosis of cervical deformity? Assume there is no thoracolumbar deformity that would increase the C2-C7 SVA.** |
| a.     Yes |
| b.     No |
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| **9. Is a patient-reported history of difficulty holding their head upright, by itself, sufficient to establish a diagnosis of cervical deformity? Assume there is no associated thoracolumbar deformity** |
| a.     Yes |
| b.     No |
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| **10. If you felt that none of the criteria above are sufficient, by themselves, to establish a diagnosis of cervical sagittal plane deformity, please select the combination of criteria that you feel are sufficient to establish a diagnosis of cervical deformity? (Select all that apply)** |
| a.     C2-C7 kyphosis Cobb angle > 10 deg |
| b.     C2-C7 SVA > 4cm |
| c.     CBVA > 25 deg (assume there is no associated thoracolumbar deformity) |
| d.     Patient reported history of difficulty holding head upright (assume there is no associated thoracolumbar deformity) |
| e.     No combination of these criteria is sufficient to establish the diagnosis |
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| **11. What other criteria (not mentioned above) do you feel are important in establishing a diagnosis of cervical sagittal plane deformity?** |

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| **12. A patient presents to you with a *primary complaint* *of radiculopathy* for which you are planning to offer surgical treatment. Neck pain is not a major complaint at all, there is no reported difficulty holding the head upright or horizontal gaze, and there is no obvious cervical deformity on clinical exam. In designing an operation for this patient, which of the following parameters is critical to “normalize” if present on the pre-operative upright radiographs? (Select all that apply)** |
| a.     C2-C7 SVA > 4 cm |
| b.     C2-C7 kyphosis Cobb angle > 10 degrees |
| c.     CBVA > 25 degrees (assume there is no associated thoracolumbar deformity) |
| d.     Not necessarily any of the above. In this setting I would design an operation to treat the myelopathy and/or radiculopathy and not necessarily try to improve the radiographic parameters listed |
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| **13. In the scenario above, would you offer the patient a “more extensive” operation than what is needed to adequately treat the radiculopathy in order to normalize the sagittal plane radiographic parameters listed above (i.e. C2-C7 SVA > 4 cm, C2-C7 kyphosis Cobb > 10 degrees, CBVA > 25 degrees)? Examples of a more extensive operation might include: performing combined anterior and posterior surgery, adding additional fusion levels beyond the levels that are causing the radiculopathy, or performing osteotomies to improve the overall sagittal plane parameters?** |
| a.     Yes |
| b.     No |
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| **14. A patient presents to you with a *primary complaint* *of myelopathy* for which you are planning to offer surgical treatment. Neck pain is not a major complaint at all, there is no reported difficulty holding the head upright or horizontal gaze, and there is no obvious cervical deformity on clinical exam. In designing an operation for this patient, which of the following parameters is critical to “normalize” if present on the pre-operative upright radiographs? (Select all that apply)** |
| a.     C2-C7 SVA > 4 cm |
| b.     C2-C7 kyphosis Cobb angle > 10 degrees |
| c.     CBVA > 25 degrees (assume there is no associated thoracolumbar deformity) |
| d.     Not necessarily any of the above. In this setting I would design an operation to treat the myelopathy and/or radiculopathy and not necessarily try to improve the radiographic parameters listed |
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| **15. In the scenario above, would you offer the patient a “more extensive” operation than what is needed to adequately treat the myelopathy in order to normalize the sagittal plane radiographic parameters listed above (i.e. C2-C7 SVA > 4 cm, C2-C7 kyphosis Cobb > 10 degrees, CBVA > 25 degrees)? Examples of a more extensive operation might include: performing combined anterior and posterior surgery, adding additional fusion levels beyond the levels that are causing the myelopathy, or performing osteotomies to improve the overall sagittal plane parameters?** |
| a.     Yes |
| b.     No |
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| **16. A patient presents to you with *radiculopathy (no myelopathy*) but also significant diffuse axial neck pain. They DO NOT complain of difficulty holding their head upright. You are planning to offer surgical treatment. In designing an operation for this patient, which of the following parameters is critical to “normalize” if present on the pre-operative upright radiographs? (Select all that apply)** |
| a.     C2-C7 SVA > 4 cm |
| b.     C2-C7 kyphosis Cobb angle > 10 degrees |
| c.     CBVA > 25 degrees (Assume there is no associated thoracolumbar deformity) |
| d.     Not necessarily any of the above. In this setting I would design an operation to treat the myelopathy and/or radiculopathy and not necessarily try to improve the radiologic parameters listed |
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| **17. In the scenario above, would you offer the patient a “more extensive” operation than what is needed to adequately treat the radiculopathy in order to normalize the sagittal plane radiographic parameters listed above (i.e. C2-C7 SVA > 4 cm, C2-C7 kyphosis Cobb > 10 degrees, CBVA > 25 degrees)? Examples of a more extensive operation might include: performing combined anterior and posterior surgery, adding additional fusion levels beyond the levels that are causing the radiculopathy, or performing osteotomies to improve the overall sagittal plane parameters?** |
| a.     Yes |
| b.     No |
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| **18. A patient presents to you with *radiculopathy (no myelopathy*) but also significant diffuse axial neck pain AND complaints of difficulty holding their head upright. You are planning to offer surgical treatment. In designing an operation for this patient, which of the following parameters is critical to “normalize” if present on the pre-operative upright radiographs? (Select all that apply)** |
| a.     C2-C7 SVA > 4 cm |
| b.     C2-C7 kyphosis Cobb angle > 10 degrees |
| c.     CBVA > 25 degrees (Assume there is no associated thoracolumbar deformity) |
| d.     Not necessarily any of the above. In this setting I would design an operation to treat the radiculopathy and not necessarily try to improve the radiologic parameters listed |
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| **19. In the scenario above, would you offer the patient a “more extensive” operation than what is needed to adequately treat the radiculopathy in order to normalize the sagittal plane radiographic parameters listed above (i.e. C2-C7 SVA > 4 cm, C2-C7 kyphosis Cobb > 10 degrees, CBVA > 25 degrees)? Examples of a more extensive operation might include: performing combined anterior and posterior surgery, adding additional fusion levels beyond the levels that are causing the radiculopathy, or performing osteotomies to improve the overall sagittal plane parameters?** |
| a.     Yes |
| b.     No |
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| **20. A patient presents to you with *progressive myelopathy* but also significant diffuse axial neck pain. They do not complain of difficulty holding their head upright. You are planning to offer surgical treatment. In designing an operation for this patient, which of the following parameters is critical to “normalize” if present on the pre-operative upright radiographs? (Select all that apply)** |
| a.     C2-C7 SVA > 4 cm |
| b.     C2-C7 kyphosis Cobb angle > 10 degrees |
| c.     CBVA > 25 degrees (Assume there is no associated thoracolumbar deformity) |
| d.     Not necessarily any of the above. In this setting I would design an operation to treat the myelopathy and not necessarily try to improve the radiologic parameters listed |
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| **21. In the scenario above, would you offer the patient a “more extensive” operation than what is needed to adequately treat the myelopathy in order to normalize the sagittal plane radiographic parameters listed above (i.e. C2-C7 SVA > 4 cm, C2-C7 kyphosis Cobb > 10 degrees, CBVA > 25 degrees)? Examples of a more extensive operation might include: performing combined anterior and posterior surgery, adding additional fusion levels beyond the levels that are causing the myelopathy, or performing osteotomies to improve the overall sagittal plane parameters?** |
| a.     Yes |
| b.     No |
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| **22. A patient presents to you with *progressive myelopathy* but also significant neck pain AND complains of difficulty holding their head upright. You are planning to offer surgical treatment. In designing an operation for this patient, which of the following parameters is critical to “normalize” if present on the pre-operative upright radiographs? (Select all that apply)** |
| a.     C2-C7 SVA > 4 cm |
| b.     C2-C7 kyphosis Cobb angle > 10 degrees |
| c.     CBVA > 25 degrees (Assume there is no associated thoracolumbar deformity) |
| d.     Not necessarily any of the above. In this setting I would design an operation to treat the myelopathy and/or radiculopathy and not necessarily try to improve the radiologic parameters listed |
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| **23. In the scenario above, would you offer the patient a “more extensive” operation than what is needed to adequately treat the myelopathy in order to normalize the sagittal plane radiographic parameters listed above (i.e. C2-C7 SVA > 4 cm, C2-C7 kyphosis Cobb > 10 degrees, CBVA > 25 degrees)? Examples of a more extensive operation might include: performing combined anterior and posterior surgery, adding additional fusion levels beyond the levels that are causing the myelopathy, or performing osteotomies to improve the overall sagittal plane parameters?** |
| a.     Yes |
| b.     No |