



## Perspective from a pediatric orthopedic deformity surgeon

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The article “Full spine radiographs: What others are reporting—a survey of Society of Skeletal Radiology members” raises interesting questions about the standardization of reporting of radiologic findings. As a pediatric orthopedic surgeon who performs spinal surgery, I have a vested interest in the information conveyed in the radiologic interpretation of spinal deformity radiographs in children. I think the most important service a radiologist can provide to me and my patient is to look objectively at the X-ray for things I may not notice. For instance, are there findings other than in the bone that I may need to know about for the patient’s generalized well-being? I do not want my orthopedic mindset to keep me from noticing important soft tissue findings that radiologists are better equipped to detect. That being said, I believe that developing institutional protocols for the dictation of spine deformity films is an important step in standardizing the care of these patients to the greatest extent possible. Deformity films are obtained in children for both coronal plane and sagittal plane problems. While sagittal plane issues are less critical in children than in adults, they remain largely uninvestigated over the long term in scoliosis patients. Because of this, we frequently imply that they are unimportant. As a practicing orthopedic surgeon, I would prefer a standardization of reporting between children and adult deformity films. The minimum information I would like to see would include Cobb angles (including a statement about the end vertebrae measured, e.g., T4-T12 15 degrees) of the major curves on the standing PA X-ray, a statement about balance based on the position of the C7 vertebra to the center sacral line (e.g., the spine is 2 cm out of balance to the left), and the presence and height or degree of pelvic obliquity (there is a

pelvic obliquity with the right side being approximately 2.3 cm longer than the left or a 12-degree pelvic obliquity is present). I do not think the Nash and Moe, Lenke, or other classifications need to be referenced as these can be somewhat subjective. Instead, I am interested only in objective measures. With the advent of low-dose spinal stereoradiographic imaging, Jackson et al. (Spine Deformity 2018) recently proposed positioning the hands just above the shoulders so a PA view of the hand can be obtained concomitantly. This allows the level of skeletal maturity to be determined without increased exposure or cost. If this was technique was adopted, a statement about the Sanders classification (Sanders et al., J Bone Joint Surg Am 2008) of skeletal maturation should also be included to help in decision-making as to brace treatment and potential for further curve progression. On the sagittal view, I think reporting SVA, pelvic tilt, and PI-LL mismatch is important in addition to the T5–12 degree of kyphosis.

In the article, concern regarding including too much information that may contradict the treating surgeon’s findings or measurements was conveyed. This was felt to potentially impede insurance approval for procedures that the treating surgeon felt was important. I use the radiologic interpretation as a second opinion and frequently remind my residents and fellows to “beware of doctors afraid of second opinions”. If my interpretation of the film differs from the radiologist’s interpretation, I try to directly communicate with the radiologist or otherwise explain that difference so that I do not treat the patient inappropriately.

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