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Functional Anatomy

- The analysis of normal and abnormal movement requires a well-founded knowledge of functional anatomy.
- A functional disturbance of the paravertebral muscles and deep back muscles will lead to abnormal movement or will alter movement sequence. When muscles become shortened, actual motion restriction may be present.
- True paralysis of the paravertebral muscles, e. g. as with poliomyelitis, will inevitably elicit abnormal postural relationships among the various spinal regions, such as progressive scoliosis and kyphosis.
- Symmetrical contraction of the short and long paravertebral muscles is accompanied by extension of the spine.
- Rotation of the head and trunk to one side is induced by the ipsilateral long back extensors, the abdominal muscles, as well as the contralateral small muscles of the transversospinal system, namely the semispinal muscle, the multifidus muscle and the rotator muscles (Fig. 1).

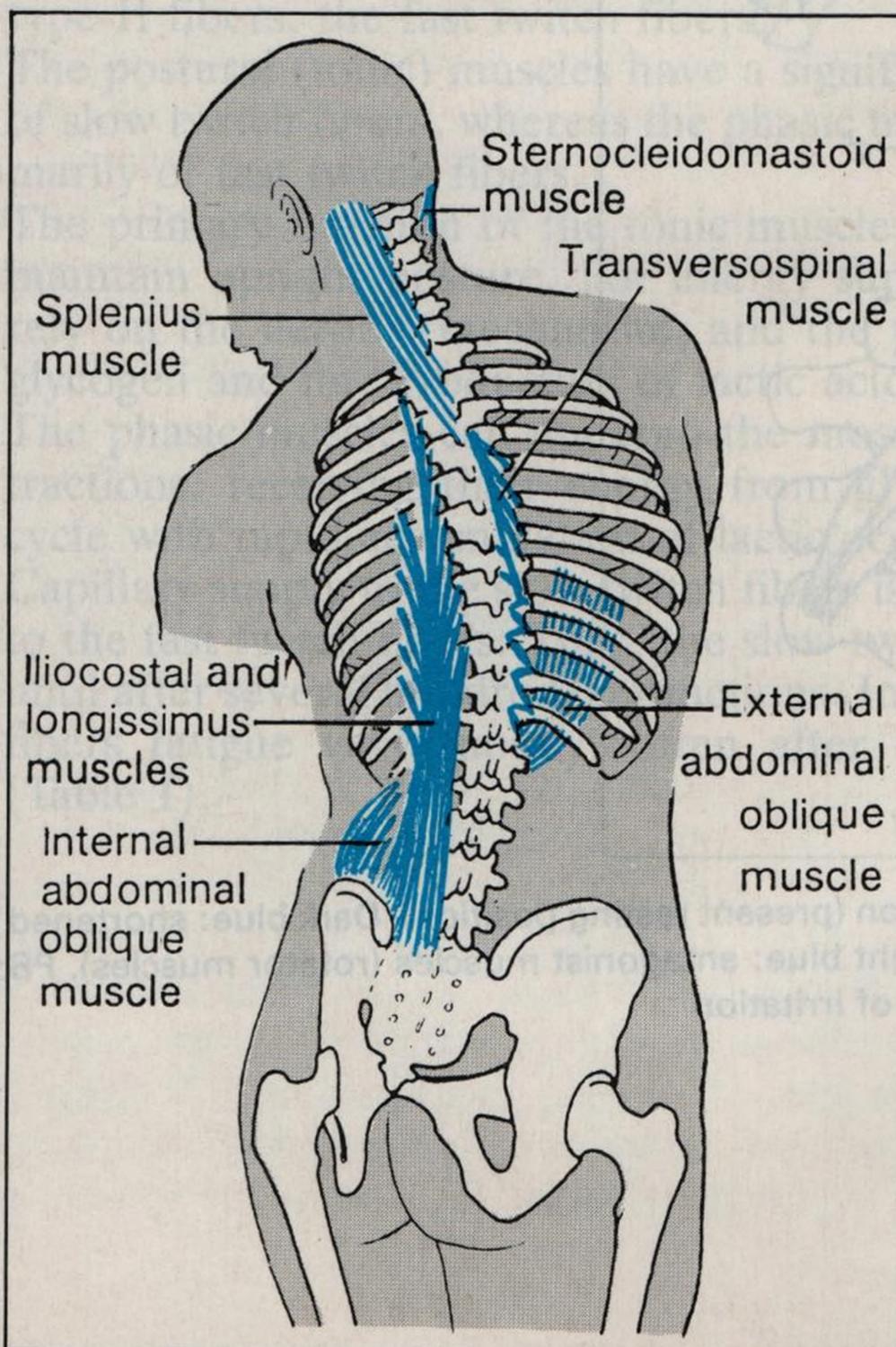


Fig. 1 Anatomic diagram: rotation of the trunk to the left and the associated contracted muscles (after Rickenbacher et al., 1982)