Introduction: The prevalence of Joint Hypermobility Syndrome (JHS) worldwide is estimated to be 5-17%. Hypermobility syndromes have been associated with a variety of comorbidities, and it can be an important risk factor for Sleep Disordered Breathing (SDB). The usual risk factors for SDB, such as obesity, male gender, or post-menopausal status, are frequently absent in hypermobile populations, yet the impact of SDB on the quality of these patients’ lives can be profound.

Methods: Charts of 49 consecutive patients with a Beighton hypermobility score ≥ 5 from a Neurology Institute were retrospectively reviewed. The review included 33 MRIs and 36 weight and extension radiographs of the neck, obtained to evaluate cervical spine complaints. The presence of Fatigue or Sleep Complaints, SDB, Headache or Migraine, Disorders of the Cervical Spine, and Symptoms of Dysautonomia (DYS) was evaluated. All ± values reflect the standard error of the mean.

Results: 41 patients (84%) had sleep or fatigue complaints. 30 underwent Polysomnography (PSG), and 5 completed Home Sleep Testing (HST), though PSG was requested for all. SDB was diagnosed in 33 patients (63%). 11 had Obstructive Sleep Apnea (OSA) (44.5%), and 10 had Paired Sleep Apnea – Upper Airway Resistance Syndrome (OSA – UARS) (41%). For patients with SDB, the average age was 34.8 ± 2.3 years, and the average BMI was 27.14 ± 1.1. See figures 1-3 for observations related to prevalence of SDB, Headache or Migraine, Disorders of the Cervical Spine, and Symptoms of Dysautonomia.

On a T1-weighted MRI in mid-sagittal section, the following airway measurements were obtained and reflect the largest dimensions in centimeters: Retroepiglottal (0.47 ± 0.06), Retropalatal (0.47 ± 0.06), and Epiglottal length (0.22 ± 0.06). MRI measurements for patients with SDB did not differ from those patients without sleep complaints. There was no difference in cervical spine mobility in patients with or without sleep complaints; however, there was a correlation in patients with Headache Disorders: see figure 4.

Discussion: The presence of SDB in patients with hypermobility disorders has been noted, but the marked prevalence of fatigue and SDB in a population of JHS patients in this series is a new finding. Fatigue by itself was not the most common complaint. In fact, many patients with JHS may suffer fatigue and SDB without seeking evaluation and treatment for those specific complaints. Fatigue in hypermobile populations is often attributed to chronic pain, anxiety or depression, or nocturnal micturition. Unfortunately, in this series, HST (25%) was considerably less effective in diagnosing SDB compared to an attending PSG (95%), probably because HSTs do not accurately portray RERAs. Additionally, since 10 patients with fatigue or sleep complaints did not complete PSG, the actual prevalence of SDB in this cohort is likely to be greater than that measured (63%).

Most patients in this cohort of JHS patients had Fatigue or Sleep complaints, Headache or Migraine, Symptoms of Dysautonomia, and Disorder of the Cervical Spine. Whether or not these 4 major symptoms share a common cause must await further research.

Conclusion: 1. SDB is present in patients with hypermobility, and it is likely the cause of fatigue and sleep complaints in these patients.

2. Hypermobile patients with SDB have an age well below menopause, and a BMI well below that generally associated with SDB.

3. In our series, airway measurements in patients with sleep or fatigue complaints did not differ from those without sleep or fatigue complaints.

4. HSTs are considerably less effective in detecting SDB in hypermobile patients compared to attended PSG.

5. Because of the frequent occurrence of milder, yet treatable, SDB in hypermobile patients, all patients with hypermobility and fatigue or sleep complaints should be evaluated with attended PSG.

6. Whether or not SDB, JHS, DYS, and Headache share a common cause must await further research.

References