

## Somerset Hills Handicapped Riding Center

### MEMO

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Date: December 14, 2004

**Re: Atlantoaxial Instability in Down syndrome As Related to Equestrian Activities**

This memo is to inform riders and parents of the inherent risks involved with equestrian activities for individuals diagnosed with Down syndrome and/or atlantoaxial instability. SHHRC is guided by the recommendations of NARHA (North American Riding for the Handicapped Association) and Special Olympics, both recognized experts in the area of sports activities for people with disabilities.

There is evidence that 10% of individuals with Down syndrome suffer from a mal-alignment of the cervical vertebrae C1 and C2 in the neck, known as Atlantoaxial Instability. Atlantoaxial Instability can be defined as an abnormal increase of mobility of the two upper cervical vertebrae (C1 and C2) located at the top of the neck. This condition exposes individuals with Down syndrome to the possibility of injury if they participate in any activity the hyper-extends, radically flexes or creates direct pressure on the neck or upper spine. This condition can occur spontaneously or be induced by injury that results from excessive anterior movement of the upper spine.

Although every precaution is taken at Somerset Hills Handicapped Riding Center to make lessons as safe and as risk free as possible, there is always risk involved when working around or riding on a horse. Equestrian sports are considered a high-risk activity. Even the quietest of horses are, by nature, very unpredictable, thereby increasing the possibility of an injury while horseback riding. A horse's normal stride/movement in itself can create hyper-extension or hyper-flexion of the neck and upper spine.

A physician must examine any individual with Down syndrome who is partaking in equestrian activities. X-rays must be taken, including views of full extension and flexion of the neck, to determine that the individual does not have the Atlantoaxial Instability condition. This information must be noted on the Annual Medical History and Physicians Statement.

Your cooperation in this matter is appreciated.