Spina bifida

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The extent of the disability varies with the level of the lesion: upper motor neurone involvement will produce spasticity while the more classic lower motor neurone lesion produces a flaccid paralysis. Muscle imbalance leads to secondary joint a ff ect the choice of surgical and non-surgical options. Many children require a ventriculoperitoneal (VP) shunt to drain the hydrocephalus that develops following closure of the myelo cele. With growth, a tethered cord or a blocked VP shunt may develop with a deterioration in the neurological picture. (a) (b) (c) Many types of muscular dystrophy exist that vary in severity and distribution of involvement. Surgical intervention aims to - improve quality of life. This is best achieved by operating early to release joint contractures and maintain the ability to walk with a good spinal posture.

70 60 50 40 30 Hip /f_l exion 20 10 0 –10 0 20 40 60 80 100 80 70 60 50 40 30 Knee /f_l exion 20 10 0 0 20 40 60 80 100 25 20 15 10 5 0 –5 –10 Ankle dorsi /f_l exion +ve Ankle plantar /f_l exion –ve –15 –20 –25 0 20 40 60 80 100 Figure 44.37 Gait analysis graphs such as these demonstrate the normal range of joint movements (green band) at the hip (a) (b) and ankle (c) during the stance and swing phases of the gait. The abnormal joint ranges are shown in red (right leg) and blue (left leg) and demonstrate the excessive hip /f_l exion, lack of knee extension and abnormal ankle mechanics associated with the ‘crouch’ gait of a child with cerebral palsy.

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