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Letter of Justification for Adaptive Equipment  
March 16, 2001

Re: Go-Bot. a transitional mobility Aid with gait trainer cart

Name: -----, Jonathan  
Date of Birth: July 20, 1998  
,Diagnosis-. Down Syndrome, Cerebral Palsy  
Physicians: Dr. Gregory ----, Dr. Kenneth V. -----

#### **A. Background information:**

Jonathan is a 31month old boy with the dual diagnosis of Down Syndrome and cerebral palsy. He has been receiving physical therapy Early intervention services from this provider since September 1999, His positioning needs have changed over the years, but he has been fortunate enough to use- loaner equipment or home made equipment so far. However, as he continues to progress, his needs for adaptive equipment is becoming clearer. He will need to have his own standee or mobility device in order to function at his maximum potential.

#### **B. Physical and Functional Development:**

Jonathan is severely hypotonic overall with mild apasticit3r in his extremities. Even though he appears to be doing well in receptive language and cognitive skills, he has difficulty with his movements or mid range muscle control due to tonal imbalances. As a result, he tends to move in total extension or flexion patterns, his movements are generally quite slow and labored, It takes him at least a good 5 minutes or more to roll 5 feet. Sound production is very labored and inconsistent.

Jonathan prone props on elbows, rolls for short distances, and is starting to scoot on his stomach. He sits momentarily with a flexed trunk and occasionally with 'Upper extremity prop up. Trunk or pelvic support is essential in sitting when performing fine motor activities such as reaching. He also needs head support if accuracy is important. Jonathan enjoys standing against the couch with help at his pelvis. He propels and pivots the Pony gait trainer forward for at least 5-10 feet in approximately 5-10 minutes. He has a gross motor age of 5-6 months according to the Peabody Developmental Motor Scale.

#### **C. Current Equipment;**

Jonathan has tried a variety of equipment including the Pony gait trainer, Rifton prone stander, Tumble Forms feeder seat, corner chair with adjustable tray, and Rifton chair with high back and adjustable tray. He uses a custom scooter for floor mobility. For long distance or functional mobility, Jonathan uses the Go-Bot, a motorized stander on a wheel base. Aside from the Go-Bot and Pony gait trainer, he uses a home made corner chair with tray made by his grandfather, an adjustable high chair, and uses a loaner high back Rifton chair occasionally.

He has been using a loaner Go-Bot for the past 6 months, and the benefits are phenomenal for him. He quickly mastered the concept of cause and effect through the single switch, and enjoys the thrill of movement so much that he becomes much more mobile. Even though it may take him over 10 minutes, he now rolls around to reach for toys whereas he was unable to do so 6 months ago. In addition, the Go-Bot also allows him to 5ocialize with his peers at the same level. He is vocalizing more and more. He obviously has made gains in all developmental areas because of the use of this equipment.

Jonathan will benefit from having his **own GO-BOT** with the following accessories:

**1. Go-Bot 24 Volt base unit:** Jonathan will need to use a, 24 volt unit to fully utilize the GO-BOT's potential. His driveway is very steep and it is difficult for the 12 volt GO-BOT to go up the incline or their unlevel lawn. In addition, the small indoor only GO-BOT will not meet Jonathan's needs since it is too low to the ground for outdoor use, and the construction is not sturdy enough for long term use. It should be noted that Jonathan does use the Go-Bot in family outings quite often, especially in the summer. The unit comes with a standard joystick, but Jonathan will need a toggle type extended joystick for ease of control.

**2. Supine Standard:** This is a standing frame that Jonathan uses to stand in the GO-BOT. It functions as a stander, a positioning device and also, when attached to a wheelbase, a "Pony" type gait trainer. The supine standard comes with knee pads, pelvic straps, chest straps, head support, foot plates, and a saddle seat. An additional wheelbase can be ordered to convert the stander into a Pony type gait trainer, thereby making the Go-Bot a multi-purpose equipment, and eliminates the need for Jonathan to have another Pony gait trainer.

**3. Adjustable Tray;** Jonathan needs a tray to position his arms properly so he can anchor himself for fine Motor Control. He will benefit from a solid color tray so as to reduce visual distraction. The tray must be adjustable and tilt in space so objects can be placed within his visual field since Jonathan has limited head control.

**4. Mounting for joystick or switches:** The additional mounting clamp will allow Jonathan to use the joy stick closer to his reach when he is not using the tray. This will allow him to get closer to his target objects or persons without having the tray get in the way. This is especially important when he is in a social situation.

**5. Four Wheel Gait trainer Expandable Cart, with cross over toe plate;** Jonathan will need this cart to convert the supine standard into a gait trainer that he can learn to propel on his own. The cross over plate is essential to prevent him from scissoring due to the spasticity in his lower extremities.

#### **D. Rationale for the Go-Bot Recommendation:**

A motorized device is recommended instead of a manual mobility device because Jonathan does not have the muscle control or strength to propel the wheels of a manual wheelchair. The Pony gait trainer does not provide adequate postural alignment for him. He tends to slide forward due to his hypotonia. In addition, he moves very slowly in the Pony, thereby rendering it difficult to move in a functional manner, especially in a classroom setting. The only option left for Jonathan is a motorized device that he can control on his own and yet provide reasonable speed for functional or community mobility.

The Go-Bot is recommended instead of a motorized wheelchair for Jonathan at this time. The unit offers more flexibility including the opportunity for him to be upright or sitting. The stander and tray allows Jonathan proper positioning for fine motor or developmental activities. It can be easily converted into a Pony type gait trainer, thereby eliminating the need of additional equipment and the relating cost. The entire unit will accommodate children up to 63 inches tall and 150lbs; Jonathan is only 34 inches tall and 22lbs in weight. There is tremendous growth allowance. In addition, the cost of the GO-Bot is about half of an electric wheelchair which offers less positioning options.

The upright option that the Go-Bot offers provides a clear advantage to a conventional electric wheelchair. The upright posture allows Jonathan to weight bear on his lower extremities, promote bone growth, prevent osteoporosis or possible pathological fractures in the future, improve bowel and bladder functions, and improve respiratory functions. Jonathan has a functional scoliosis and the proper positioning this unit offers may prevent it from becoming a structural deformity. In addition to the physical benefits, the Go-Bot also provides Jonathan numerous psychological and developmental benefits. He can now relate to his peers at their level, and participate more fully in developmental activities. The unit also becomes a major motivator for him, encouraging him to be

more mobile and vocal even without the unit. The quality of life benefit is invaluable to his family.

I have taken the liberty of enclosing a research report on this unit **by** Stanford University for your review.

Your consideration in this request will be greatly appreciated **by** Jonathan and his family.

Sincerely,

Minnie