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Spinal Cord Injury Fact Sheet

ABOUT SCI: Spinal Cord Injury (SCI) is damage to the spinal cord that results in the loss of function such as mobility or feeling.

SCI can be divided into three groups depending on the location of the injury. High Tetraplegia injuries are cervical spine injuries between vertebra C1-C4, Low Tetraplegia injuries are cervical spine injuries between vertebra C5-C8 and paraplegia are typically vertebra injuries of thoracic, lumbar vertebra or sacrum. All these injuries result in impairment of sensory and motor functions to a varying degree. The higher the site of injury, the greater number of nerves affected, which can result in partial or complete paraplegia. Tetraplegia injuries can affect the arms and legs and in some instances cause ventilator dependency. There is currently no cure for SCI.

As of January 2008, the National Spinal Cord Injury Database estimates 227,000 – 300,000 individuals in the United States live with SCI and about 12,000 new cases of SCI occur each year. Approximately 500 new cases of High Tetraplegia injury and mechanical ventilator dependency occur each year that would be eligible for diaphragm pacing.

The majority of SCIs involve males under the age of 30. A 20 year old Tetraplegia patient with ventilator dependency has >14 year shorter life expectancy than Tetraplegia without the use of a ventilator. The leading causes of death are pneumonia, pulmonary emboli and septicemia.

CAUSES: The leading causes of SCI injuries are vehicle crashes (47%), falls (22%) and violence (~14%). Other causes are trauma, sports injuries or disease, such as polio or spinal bifida.

COSTS: **Facts & Figures National Spinal Cord Injury Statistical Center, June 2005**

Injury	1st Yr Expense	Subsequent Yr Expense	Lifetime Costs 25 yr old	Lifetime Cost 50 yr Old
High Tetra	$775,000	$139,000	$3,000,000	$1,800,000
Low Tetra	$501,000	$ 57,000	$1,700,000	$1,095,000
Paraplegia	$283,000	$ 29,000	$ 1,022,000	$ 697,000

CLINICAL TRIALS: Clinical trials for the use of the NeuRx Diaphragm Pacing System (DPS)™ on patients with spinal cord injury began in 2000. Synapse received FDA approval for treating ventilator dependency as a result of spinal cord injury on June 17th 2008.