ALL ABOUT SPECIALTY CONTROLS!
RON CLAUGHTON AND SHEILAGH SHERMAN, OT REG. (ONT.)
Sunrise Medical Canada

A joystick is the most commonly used input device to operate a power wheelchair, but not everyone has the physical ability to operate a wheelchair using a joystick and for these people specialty controls, or alternative input devices, are required. This paper will review the differences between proportional and non-proportional drive controls; describe the difference between mechanical and electronic switches; and identify some available specialty control options.

A standard joystick is an example of a proportional input device. This means that the amount of deflection on the joystick gimble will correspond with a given rate of movement of the wheelchair, similar to how a gas pedal on a car works. Thus, the further the joystick is pushed out of the neutral position in any direction, the faster the wheelchair will go. Alternative joysticks, which require very little force for activation, are available. These include the MicroPilot and Touch Drive by Switch-It, Inc. and the Proportional Mini and Micro Mini Joysticks by ASL, Inc.

A switch is an example of a non-proportional drive control. This means that the switch is either “on” or “off”, similar to how a light switch works. Each switch is pre-programmed for one direction and speed. Thus, activating the switch activates the movement of the wheelchair for a set speed and direction. Other examples of non-proportional drive controls include sip and puff and head array with switch control. (A proportional head control also is available.)

Switches can be either mechanical or electronic. Mechanical switches require a depression of the switch to activate. There are numerous choices available in mechanical switches, ranging in size and amount of force required to operate the switch. In comparison, electronic switches, such as Fibre Optic Switches (Switch-It, Inc), do not require direct touch to operate. Depending upon the programming, the fibre optic switch may be activated when an object either is detected within the adjusted range or moves from the adjusted range.

Deciding upon what is the most ideal input device for a power wheelchair user starts with the assessment of the individual. Part of that assessment will include evaluation of the access point, or the part of the body that will be used to control the wheelchair. The access point is the point on the body for which the person can move reliably in two directions. Potential access points include the head, cheek, temple, mouth, chin, finger, thumb, elbow, knee, foot, and toes. Whether a proportional or non-proportional input device is chosen for an individual depends on what type the person has the most success with using. Training with and trial of equipment is the key to ensuring proper prescription of a specialty control. What is also important, but beyond the scope of this seminar, is the postural stability of the individual in the wheelchair to ensure consistent access to the specialty control.

References:


**Speaker Bio:**

Ron Claughton and Sheilagh Sherman both work for Sunrise Medical Canada. Ron has been an Account Manager with Sunrise Medical for the past 6 years. Ron has over 11 years of experience presenting clinical and technical in-services throughout Canada and the United States on power wheelchairs and custom powered seating, manual wheelchairs and standard and custom seating. Sheilagh has been the Clinical Educator for Sunrise Medical Canada for the past 2 years. Sheilagh, an occupational therapist, leads seminars and workshops on the clinical aspects of seating and mobility for therapists in Canada.