
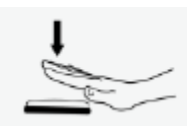













# Switch Site Location & Positioning Chart









This document provides guidelines for linking reliable, consistent and repeatable movements to potential switch site locations and positions. It also provides some benefits and challenges for each specific movement and location. This chart is meant to be a guide. Remember, switch type selection is highly dependent on the unique profile of the person using a switch.

**Note of caution:** If the person using a switch is also operating their wheelchair with a body movement (i.e.: leaning their head back), you must select a different movement for the function of communication (i.e.: tilting their head to the right) in order to keep the two functions separate.




Hand		
What movement was selected?	Position of Switch	Important Notes
<p><b>Pressing down</b></p> 	<p>Flat on surface</p> 	<p>Benefits</p> <ul style="list-style-type: none"> <li>• Can be mounted to table or lap tray with Velcro</li> <li>• Easy to consistently position the switch on a flat surface</li> </ul>
		<p>Challenges</p> <ul style="list-style-type: none"> <li>• Difficult to position when a flat surface is not accessible</li> <li>• Can be fatiguing if the individual tends to move their arm around</li> <li>• Mis-hits are common because of difficulty lifting off the switch</li> <li>• Accuracy may be negatively affected if the individual has difficulty reaching a specific spot consistently</li> </ul>
	<p>Recessed into laptray</p> 	<p>Benefits</p> <ul style="list-style-type: none"> <li>• Potential for fewer mis-hits than above position</li> </ul>
		<p>Challenges</p> <ul style="list-style-type: none"> <li>• Requires specific fabrication of laptray and mounting of switch</li> <li>• Requires extra effort to hit the switch</li> <li>• Accuracy may be negatively affected if the individual has difficulty reaching a specific spot consistently</li> </ul>


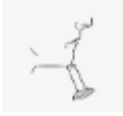

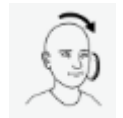




<p><b>Reaching forward</b></p> 	<p>In front of hand</p> 	<p>Benefits</p>	<ul style="list-style-type: none"> <li>• Accommodates a variety of movements of the hand (i.e. punch, palm or finger movement)</li> <li>• Easy to position switch</li> </ul>
<p><b>Lifting Wrist</b></p> 	<p>Above hand</p> 	<p>Benefits</p>	<ul style="list-style-type: none"> <li>• Potentially good control because the movement is small and specific</li> <li>• Ease of release may result in reduced mis-hits</li> </ul>
<p><b>Moving to the side</b></p> 	<p>Next to hand</p> 	<p>Benefits</p>	<ul style="list-style-type: none"> <li>• Potentially good control because the movement is small and specific</li> <li>• Ease of release may result in reduced mis-hits</li> </ul>
<p><b>Turning hand in or out</b></p> 		<p>Challenges</p>	<ul style="list-style-type: none"> <li>• Requires additional equipment for positioning switch in each location</li> <li>• Difficult to position when user is not in a supported position</li> </ul>
<p><b>Grasp</b></p> 	<p>In hand</p> 	<p>Benefits</p>	<ul style="list-style-type: none"> <li>• Potentially good control because the movement is small and specific</li> <li>• Ease of release may result in reduced mis-hits</li> <li>• The arm can be anywhere as long as the hand can grasp</li> </ul>
		<p>Challenges</p>	<ul style="list-style-type: none"> <li>• Can be difficult to release if spasticity is present</li> <li>• Often requires frequent repositioning</li> <li>• May be difficult for others to place correctly</li> <li>• Interference from the cord may occur</li> </ul>

# Finger

What movement was selected?	Position of Switch	Important Notes		
<b>Pressing down</b> 	Flat on surface 	<b>Benefits</b> <ul style="list-style-type: none"> <li>• Requires only Velcro to mount on table or lap tray</li> <li>• Easy to consistently position switch</li> </ul>	<ul style="list-style-type: none"> <li>• Difficult to position when not in wheelchair</li> <li>• Can be fatiguing if the individual tends to move their arm around</li> <li>• Mis-hits are common because of difficulty lifting off the switch</li> <li>• Accuracy may be negatively affected if the individual has difficulty reaching a specific spot consistently</li> </ul>	
	<b>Challenges</b>			
	<b>Thumb</b> 	Recessed into laptray 	<b>Benefits</b> <ul style="list-style-type: none"> <li>• Accidental hits may be avoided</li> </ul>	<ul style="list-style-type: none"> <li>• Requires specific fabrication of laptray and mounting of switch</li> <li>• Requires extra effort to activate the switch</li> <li>• Accuracy may be negatively affected if the individual has difficulty reaching a specific spot consistently</li> </ul>
		<b>Challenges</b>		
		In palm 	<b>Benefits</b> <ul style="list-style-type: none"> <li>• Takes advantage of what may be a strong isolated movement</li> <li>• Easy setup for others using a Velcro strap</li> </ul>	<ul style="list-style-type: none"> <li>• May require repositioning</li> <li>• Cords may interfere with movement</li> </ul>
		<b>Challenges</b>		
		On fingers 	<b>Benefits</b> <ul style="list-style-type: none"> <li>• Takes advantage of what may be a strong isolated movement</li> <li>• Easy setup for others using a Velcro strap</li> </ul>	<ul style="list-style-type: none"> <li>• May require repositioning</li> <li>• Cords may interfere with movement</li> </ul>
		<b>Challenges</b>		

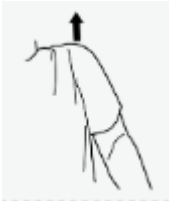

# Head

What movement was selected?	Position of Switch	Important Notes
<b>Turning head</b>	At jaw line	<p><b>Benefits</b></p> <ul style="list-style-type: none"> <li>• Tends to be movement that can be produced consistently</li> <li>• Will not interfere with glasses</li> </ul> <hr/> <p><b>Challenges</b></p> <ul style="list-style-type: none"> <li>• Positioning may be difficult especially in bed</li> <li>• Could interfere with maintaining gaze on target if individual tries to look at the switch or if it is positioned far from jaw</li> <li>• May trigger Asymmetrical Tonic Neck Reflex (ATNR) reflexes in some individuals</li> <li>• Partners may mistake movement for “no” response but would certainly learn to distinguish over time</li> </ul>
		<p><b>Benefits</b></p> <ul style="list-style-type: none"> <li>• Some individuals may prefer with this location</li> </ul>
		<p><b>Challenges</b></p> <ul style="list-style-type: none"> <li>• Position near mouth may result in saliva production or rooting behaviors in some individuals</li> <li>• May trigger ATNR reflexes in some individuals</li> <li>• Partners may mistake movement for “no” response but would certainly learn to distinguish over time</li> </ul>
		<p><b>Challenges</b></p> <ul style="list-style-type: none"> <li>• Position near eye may interfere with glasses</li> <li>• Need to consider potential for damage to eye if the individual's movement is inconsistent</li> <li>• Partners may mistake movement for “no” response but would certainly learn to distinguish over time</li> <li>• Individual could lose focus if they tend to look at the switch</li> <li>• Should not be considered if the individual wants to look at the switch</li> </ul>





<b>Tilting head</b> 	At jaw line 	<b>Benefits</b> <ul style="list-style-type: none"> <li>• Will not interfere with glasses</li> </ul>
	<b>Challenges</b> <ul style="list-style-type: none"> <li>• Positioning may be difficult especially in bed</li> <li>• Could interfere with maintaining gaze on target if individual tries to look at the switch or if it is positioned far from jaw</li> <li>• May trigger ATNR reflexes in some individuals</li> <li>• Partners may mistake movement for “no” response but would certainly learn to distinguish over time</li> </ul>	
<b>Tilting head</b> 	At cheek 	<b>Benefits</b> <ul style="list-style-type: none"> <li>• Some individuals may prefer with this location</li> </ul>
	<b>Challenges</b> <ul style="list-style-type: none"> <li>• Position near mouth may result in saliva production or rooting behaviors in some individuals</li> <li>• May trigger ATNR reflexes in some individuals</li> <li>• Partners may mistake movement for “no” response but would certainly learn to distinguish over time</li> </ul>	
<b>Leaning head back</b> 	Behind head 	<b>Benefits</b> <ul style="list-style-type: none"> <li>• Switch is not obvious to others</li> </ul>
		<b>Challenges</b> <ul style="list-style-type: none"> <li>• Partners may mistake movement for “yes” response but would certainly learn to distinguish over time</li> <li>• Individual cannot see switch</li> </ul>
<b>Lowering head</b> 	Under chin 	<b>Benefits</b> <ul style="list-style-type: none"> <li>• Some individuals may prefer with this location</li> <li>• Can be a good alternative if other head movements are problematic</li> </ul>
		<b>Challenges</b> <ul style="list-style-type: none"> <li>• Position near mouth may result in saliva production or rooting behaviors in some individuals</li> <li>• May result in loss of eye contact with partners or ability to see target on device</li> <li>• May trigger ATNR reflexes in some individuals</li> </ul>



- Partners may mistake movement for “yes” response but would certainly learn to distinguish over time







## Shoulder

What movement was selected?	Position of Switch	Important Notes	
<b>Shrugging shoulders</b>  	Above shoulder  	Benefits	<ul style="list-style-type: none"> <li>• Tends to be movement that can be produced consistently</li> </ul>
		Challenges	<ul style="list-style-type: none"> <li>• Positioning of switch may be challenging.</li> <li>• Partners may mistake movement for “I don’t know” response but could learn to distinguish over time</li> <li>• Potential for accidental hits with movement of the wheelchair</li> </ul>











## Elbow

What movement was selected?	Position of Switch	Important Notes	
<b>Backward</b>  	Vertical behind elbow  	Benefits	<ul style="list-style-type: none"> <li>• Takes advantage of strong one directional movement</li> </ul>
		Challenges	<ul style="list-style-type: none"> <li>• Positioning of switch may be challenging</li> <li>• Partners may mistake movement for “I don’t know” response but could learn to distinguish over time</li> <li>• Potential for accidental hits with movement of the wheelchair</li> </ul>
<b>Away from body to side</b>  	Vertical next to elbow  	Benefits	<ul style="list-style-type: none"> <li>• Takes advantage of strong one directional movement</li> </ul>
		Challenges	<ul style="list-style-type: none"> <li>• Positioning of switch may be challenging</li> <li>• Can be difficult to release switch</li> <li>• Cannot see target</li> </ul>

<b>Toward body</b> 	Vertical between body and elbow 	<b>Benefits</b> <ul style="list-style-type: none"> <li>• Takes advantage of strong one directional movement</li> </ul>
		<b>Challenges</b> <ul style="list-style-type: none"> <li>• Positioning of switch may be challenging</li> <li>• Can be difficult to release switch</li> <li>• Cannot see target</li> </ul>




<b>Knee</b>		
What movement was selected?	Position of Switch	Important Notes
<b>Movement:</b> <b>Open</b> 	Next to knee 	<b>Benefits</b> <ul style="list-style-type: none"> <li>• Takes advantage of strong one directional movement</li> </ul> <hr/> <b>Challenges</b> <ul style="list-style-type: none"> <li>• Positioning of switch may be challenging</li> </ul>
<b>Movement:</b> <b>Close</b> 	Between knees 	<b>Benefits</b> <ul style="list-style-type: none"> <li>• Takes advantage of strong one directional movement</li> </ul> <hr/> <b>Challenges</b> <ul style="list-style-type: none"> <li>• Positioning of switch may be challenging</li> <li>• Can be difficult to release switch</li> </ul>
<b>Movement:</b> <b>Lift</b> 	Above knee 	<b>Benefits</b> <ul style="list-style-type: none"> <li>• Takes advantage of strong one directional movement</li> </ul> <hr/> <b>Challenges</b> <ul style="list-style-type: none"> <li>• Positioning of switch may be challenging</li> <li>• Mis-hits may occur if startle reflex is present</li> <li>• Potential for fatigue to interfere with use</li> </ul>

## Leg and Foot

What movement was selected?	Position of Switch	Important Notes	
<p><b>Lifting lower leg</b></p> 	<p>Front of lower leg</p> 	<p><b>Benefits</b></p>	<ul style="list-style-type: none"> <li>• Takes advantage of strong one directional movement</li> </ul>
		<p><b>Challenges</b></p>	<ul style="list-style-type: none"> <li>• Positioning of switch may be challenging.</li> <li>• Can be difficult to release switch.</li> <li>• Mis-hits may occur if startle reflex is present</li> </ul>
<p><b>Pushing backward with lower leg</b></p> 	<p>Behind lower leg</p> 	<p><b>Benefits</b></p>	<ul style="list-style-type: none"> <li>• Takes advantage of strong one directional movement</li> </ul>
		<p><b>Challenges</b></p>	<ul style="list-style-type: none"> <li>• Positioning of switch may be challenging.</li> <li>• Can be difficult to release switch</li> <li>• Mis-hits may occur if startle reflex is present</li> </ul>
<p><b>Lifting foot</b></p> 	<p>Above foot</p> 	<p><b>Benefits</b></p>	<ul style="list-style-type: none"> <li>• Takes advantage of strong one directional movement</li> </ul>
		<p><b>Challenges</b></p>	<ul style="list-style-type: none"> <li>• Positioning of switch may be challenging</li> <li>• Mis-hits may occur if startle reflex is present</li> </ul>
<p><b>Pushing down with foot</b></p> 	<p>Below foot</p> 	<p><b>Benefits</b></p>	<ul style="list-style-type: none"> <li>• Takes advantage of strong one directional movement</li> </ul>
		<p><b>Challenges</b></p>	<ul style="list-style-type: none"> <li>• Positioning of switch may be challenging</li> <li>• Can be difficult to release switch</li> <li>• Strong pressure could break a switch</li> <li>• Mis-hits may occur if startle reflex is present</li> </ul>
<p><b>Foot/Pushing down with toes</b></p> 	<p>Below toes</p> 	<p><b>Benefits</b></p>	<ul style="list-style-type: none"> <li>• Takes advantage of strong one directional movement</li> </ul>
		<p><b>Challenges</b></p>	<ul style="list-style-type: none"> <li>• Not recommended for those with excess tone in the foot or toe areas</li> <li>• Recommended for use in bed because gravity is not impacting activation</li> <li>• Can be difficult to release switch</li> <li>• Mis-hits may occur if startle reflex is present</li> </ul>



## Isolated Muscle Movements

What movement was selected?	Position of Switch	Important Notes	
<b>Eyebrow lift</b>	On/near eyebrow	Benefits	<ul style="list-style-type: none"> <li>• Takes advantage of strong one directional movement</li> </ul>
		Challenges	<ul style="list-style-type: none"> <li>• Positioning of switch may be challenging</li> <li>• Can interfere with use of facial expression and eye gaze/contact for communication</li> </ul>
<b>Eye blink</b>	Near eye	Benefits	<ul style="list-style-type: none"> <li>• Takes advantage of strong one directional movement</li> </ul>
		Challenges	<ul style="list-style-type: none"> <li>• Positioning of switch may be difficult to permit natural eye blinks versus intentional</li> <li>• Can interfere with use of facial expression and eye gaze/contact for communication</li> </ul>
<b>Contraction</b>	On muscle	Benefits	<ul style="list-style-type: none"> <li>• Can be an option when success is not met through typical movement patterns</li> </ul>
		Challenges	<ul style="list-style-type: none"> <li>• Sensors to control switch must be worn</li> <li>• Positioning of switch may be challenging initially and for caregivers</li> <li>• Consistency may be challenging if contraction is not strong</li> </ul>

