Professional Perspectives on Clinical Tools

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ABSTRACT

Complex Rehabilitation Technology (CRT) is the provision of medically necessary devices that require evaluation, configuration, fitting, and programming for a unique individual (NCART 2019). However, medical documentation for this process can be just as complex as the technology itself. One of the largest problems the world of CRT faces is that of funding and reimbursement for the technology that its clients need. Documentation is not uniform from clinic to clinic, and it can be difficult to numerically measure client need for different devices. In 2019, the estimated average time from initial evaluation to the delivery of equipment was 103.29 days (Schmeler, 2019). This is 100 days of people with mobility impairments using old or broken equipment, or no equipment at all. Clients often suffer during this time, while their risk for falls, decreased social participation, and reliance on others is extended for months. This paper aims to start the conversation regarding how to better measure client need, in order to decrease the amount of time that clients wait for their equipment while insurance deliberates on funding and documentation.

METHODS

The Continuing Education team from the University of Pittsburgh presented "Addressing Issues of Vagueness in Clinical Documentation for Wheeled Mobility & Seating" at the 2018 International Seating Symposium in Vancouver, and at the 2018 European Seating Symposium in Dublin. In each session, attendees were polled regarding their use of and opinions on the following clinical tools: Manual Muscle Testing, Dynamometer, Timed Up & Go Test, Braden Score, Functional Independence Measure, 9-Hole Peg Test, Borg Perceived Exertion Scale, Functional Mobility Assessment, 10-meter Wheelchair Propulsion Test, Pain Disability Index, Posture and Postural Ability Scale, and Wheelchair User Shoulder Pain Index.

For each tool, 4 scenarios were posed to attendees, regarding whether they had used the tool, thought the tool was relevant, thought the results would help justify interventions, and whether there was minimal administrative burden. Attendees responded their agreement or disagreement on a 4-point Likert scale. This paper aims to summarize those results and interpret that information as it pertains to clinical documentation for wheeled seating and mobility.

Prior to being able to conduct this survey, it was necessary to put together a list of common clinical tools, used to measure various outcomes in a seating and wheeled mobility clinic. To begin, the tools used at the Center for Assistive Technology within the University of Pittsburgh were listed. These include the following: Manual Muscle Testing, Dynamometer, 9-Hole Peg Test, Braden Scale, Functional Independence Measure, Functional Mobility Assessment, Timed Up and Go Test, Borg Rating of Perceived Exertion, and the Pain Disability Index. To add to this list, clinicians at seating and mobility clinics within The Ohio State University and the University of Michigan were consulted. This led to the addition of three additional tools: 10-meter Wheelchair Propulsion Test, Posture and Postural Ability Scale, and the Wheelchair User Shoulder Pain Index. This resulted in twelve tools to be included in the survey.

RESULTS

At the 2018 International Seating Symposium in Vancouver, BC, a total of 80 unique individuals participated in the polls during the session "Addressing Issues of Vagueness in Clinical Documentation for Wheeled Mobility & Seating." Demographics were only collected for 26 of the 80, likely due to the timing of trying to get the polling website open. 22 were female, 4 were male. 10 were occupational therapists, 8 physical therapists, 1 engineer, 1 researcher, 1 advocate, 4 in equipment/supply, 1 other. Participation in each individual question was not mandatory, so response numbers per tool ranged from 56 responses to 80 responses. The 12 tools above were included, and the same 4 scenarios were posed to attendees for each tool.

Tool	n use the tool
Manual Muscle Testing	69
Dynamometer	49
TUG	45
Braden	44
FIM	36
9-Hole	22
Borg	18
FMA	16
10m WPT	16
Pain Disability Index	16
PPAS	4
WUSPI	3

Figure 1: n people who used each tool - ISS Vancouver

1. I use or have used this tool (Yes/No)

2. This tool is clinically relevant and meaningful (strongly agree, agree, disagree, strongly disagree)

3. The results would help me justify interventions (strongly agree, agree, disagree, strongly disagree)

4. The tool has minimal administrative burden (strongly agree, agree, disagree, strongly disagree)

A 4-point Likert scale was intentionally chosen so there would be no neutral midpoint. The results below show us that Manual Muscle Testing was used by the most participants. The most relevant tool was found to be the Posture and Postural Ability Scale. The tool that was thought to justify the most interventions was also the Posture and Postural Ability Scale. The Timed-Up and Go test was thought to be the least burdensome to administer.

Tool	% that agree or strongly agree tool is relevant	% that agree or strongly agree tool helps justify interventions	% that agree or strongly agree that the tool has minimal burden
Manual Muscle Testing	91%	92%	84%
Dynamometer	78%	74%	85%
TUG	89%	83%	100%
Braden	93%	94%	77%
FIM	53%	47%	19%
9-Hole	42%	38%	84%
Borg	91%	84%	93%
FMA	95%	91%	68%
10m WPT	91%	95%	86%
Pain Disability Index	94%	88%	68%
PPAS	97%	97%	49%
WUSPI	94%	92%	51%

Figure 2: percentages of participants who found each tool relevant, helpful for justifying intervention, & minimally burdensome – ISS Vancouver

Tool	n use the tool
Manual Muscle Testing	14
Dynamometer	13
9-Hole	10
Braden	9
FIM	9
FMA	3
TUG	3
10m WPT	2
Borg	2
Pain Disability Index	2
PPAS	1
WUSPI	0

At the 2018 European Seating Symposium in Dublin, Ireland, a total of 21 unique individuals participated in the polls during the session "Addressing Issues of Vagueness in Clinical Documentation for Wheeled Mobility & Seating." 17 were female, 4 were male. 16 were occupational therapists, 1 physical therapist, 1 engineer, 1 in supply/equipment, and 2 selected other. Response number per tool ranged from 13 responses to 20 responses. The same 12 tools above were evaluated, and the same 4 scenarios were posed to attendees.

Manual Muscle Testing was again the most-used tool. Pain Disability Index was viewed as the most relevant tool, as well as the tool that would best help to justify interventions. The least burdensome tools were the 9-Hole Peg Test, Timed-Up and Go test, and the Borg Perceived Exertion Scale.

Figure 3: n people who used each tool - ESS Dublin

Tool	% that agree or strongly agree tool is relevant	% that agree or strongly agree tool helps justify interventions	% that agree or strongly agree that the tool has minimal burden
Manual Muscle Testing	84%	84%	89%
Dynamometer	74%	68%	95%
9-Hole	56%	56%	100%
Braden	76%	88%	88%
FIM	76%	76%	24%
FMA	75%	75%	60%
TUG	73%	67%	100%
10m WPT	83%	89%	76%
Borg	92%	92%	100%
Pain Disability Index	93%	93%	71%
PPAS	88%	88%	50%
WUSPI	73%	67%	54%

Figure 2: percentages of participants who found each tool relevant, helpful for justifying intervention, & minimally burdensome – ESS Dublin

CONCLUSION

While this convenience sample of CRT industry professionals obviously does not meet criteria for a scientific study, it does give us a snapshot view of the tools that clinicians are using in the field right now. It appears as though most clinicians use just a few tools during the documentation process. Adding more outcome measurements to the evaluation process may take more time on that day, but could potentially save the end user days, weeks, or even months of waiting for their medically necessary equipment.

ACKNOWLEDGEMENTS

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APPENDICES

1. Table of tools and brief descriptions of each

Tool	Usage/Measure
Manual Muscle Testing	Evaluation of a person's strength and range of motion, performed by a clinician or physician. Major muscle groups are testing for active or passive range of motion, as well as strength in both flexion and extension (NIH, Kendall).
Dynamometer	For measuring grip strength. Client grips the tool one hand at a time and squeezes as tightly as possible. The tool then shows the force of the grip in either pounds or kilograms. Test is performed 3 times on each hand, and the average of each hand is reported.
9-Hole Peg Test	A board with 9 holes is placed in front of the client, who must then use one hand to pick up 9 pegs and place them one at a time in each hole. Once all 9 are placed, the client then removes them. The client is timed on this on the 2nd time on each hand. Tool is designed to measure dexterity and hand-eye coordination (Mathiowetz, 1985).
Braden Scale	Scale for measuring a client's risk of developing a pressure sore. It is a combination of patient-reported questions, and clinician or physician observations (Braden, 1988).
Functional Independence Measure (FIM®)	18-item tool measuring a client's ability to perform Activities of Daily Living (ADLs) and Instrumental Activities of Daily Living (IADLs). The tool attempts to discern how much assistance a client needs to perform these tasks (Uniform Data System for Medical Rehabilitation, 1997).
Functional Mobility Assessment (FMA)	10-item, self-report tool measuring a client's ability to perform Mobility Related Activities of Daily Living (MRADLs). The tool is designed to follow clients over time, as their mobility and mobility devices change (Kumar, 2013).
Timed Up and Go Test (TUG)	Walking test used to examine a client's mobility, gait, and balance. Observer uses a stopwatch to measure the time it takes for the client to rise from a chair, walk 3 meters, turn around, walk back 3 meters, and sit back down (derived from Get up and Go test, Mathias, 1986).
Borg Rating of Perceived Exertion	Measurement of physical activity intensity, as reported by the client after performing some type of physical activity. The scale ranges from 6-20, with descriptors from "very, very light," to "very, very hard" (Borg, 1982).
Pain Disability Index	Measures the impact that pain has on the ability of a person to participate in life activities (Pollard, 1984).
10-meter Wheelchair Propulsion Test (WPT)	Simple test to evaluate the wheelchair mobility of manual wheelchair users. The time taken to propel 10 meters is recorded, as well as the number of propulsion cycles (Askari, 2013).
Posture and Postural Ability Scale (PPAS)	A tool developed in the 1990's that allows posture and postural ability to be assessed separately. It was updated in 2011 to modify the levels of ability and the quality of posture (Pope, 2007). This test is performed by a clinician or physician.
Wheelchair User Shoulder Pain Index (WUSPI)	A 15-item tool designed to measure shoulder pain in people who use wheelchairs, while performing daily activities (Curtis, 1995).

2. Manual Muscle Testing Procedures

MANUAL MUSCLE TESTING PROCEDURES
Key to Muscle Grading

	Function of the Muscle	Grade		
No Movement	No contractions felt in the muscle	0	0	Zero
	Tendon becomes prominent or feeble contraction felt in the muscle, but no visible movement of the part	T	1	Trace
Test Movement	**MOVEMENT IN HORIZONTAL PLANE**			
	Moves through partial range of motion	1	2-	Poor-
	Moves through complete range of motion	2	2	Poor
	ANTIGRAVITY POSITION	3	2+	
	Moves through partial range of motion			
Test Position	*Gradual* release from test position	4	3-	Fair-
	Holds test position (no added pressure)	5	3	Fair
	Holds test position against slight pressure	6	3+	Fair+
	Holds test position against slight to moderate pressure	7	4-	Good-
	Holds test position against moderate pressure	8	4	Good
	Holds test position against moderate to strong pressure	9	4+	Good+
	Holds test position against strong pressure	10	5	Normal

Modified from 1993 Florence P. Kendall. Author grants permission to reproduce this chart

3. Dynamometer Norms

		Men				Women			
Age	Hand	N	Mean	SD	SE	N	Mean	SD	SE
20-24	R	26	138.0	25.8	4.0	26	69.8	12.0	4.0
	L		126.5	23.8	3.6		63.3	10.1	3.6
25-29	R	20	118.8	24.2	4.5	24	74.9	13.8	4.1
	L		109.5	26.2	4.1		67.2	10.9	3.8
30-34	R	7	110.7	22.8	7.7	8	73.9	17.6	7.2
	L		110.4	27.7	7.0		67.0	15.2	6.5
35-39	R	7	132.3	16.2	7.7	3	76.1	7.6	11.7
	L		125.7	21.1	7.0		65.6	13.2	10.7
40-44	R	9	124.3	28.7	6.8	7	79.0	10.6	7.7
	L		116.8	26.2	6.2		73.2	7.4	7.0
45-49	R	3	119.6	17.0	11.7	6	63.8	15.8	8.3
	L		102.9	8.2	10.7		62.7	9.2	7.6
50-54	R	3	131.8	41.6	11.7	9	67.2	22.0	6.8
	L		114.2	30.2	10.7		63.0	17.9	6.2
55-59	R	4	114.3	20.4	10.1	4	58.2	7.0	10.1
	L		102.4	17.2	9.3		54.3	9.8	9.3
60-64	R	6	88.1	38.2	8.3	6	70.6	15.3	8.3
	L		87.0	28.7	7.6		67.7	17.7	7.6
65-69	R	9	87.3	17.7	6.8	4	66.9	4.8	10.1
	L		82.9	13.0	6.2		58.1	6.7	9.3
70-74	R	4	74.3	32.0	10.1	2	59.5	4.9	14.3
	L		68.4	18.1	9.3		52.8	6.8	13.1
75+	R	11	85.5	21.6	6.1	12	50.9	11.3	5.9
	L		78.3	20.5	5.6		48.0	9.8	5.3
All	R	109	115.1	31.5	2.3	111	68.7	15.3	2.3
Subjects	L		106.8	28.8	2.8		62.9	12.9	1.2

Note: All strength data are in pounds.

4.   Nine-Hole Peg Test Norms

Table 1. Average and Standard Deviation of MALE Participants' Scores (314 total)

Age	N	M-right (seconds)	M-left (seconds)	SD-right	SD-left
21–25	41	16.41	17.53	1.65	1.73
26–30	32	16.88	17.84	1.89	2.22
31–35	31	17.54	18.47	2.70	2.94
36–40	32	17.71	18.62	2.12	2.30
41–45	30	18.54	18.49	2.88	2.42
46–50	30	18.35	19.57	2.47	2.69
51–55	25	18.93	19.84	2.37	3.10
56–60	25	20.90	21.64	4.55	3.39
61–65	24	20.87	21.60	3.50	2.98
66–70	14	21.23	22.29	3.29	3.71
71+	25	25.79	25.95	5.60	4.54
All Male Subjects	314	18.99	19.79	3.91	3.66

Table 2. Average and Standard Deviation of FEMALE Participants' Scores (389 total)

Age	N	AVG-right (seconds)	AVG-left (seconds)	STDEV-right	STDEV-left
21–25	43	16.04	17.21	1.82	1.55
26–30	33	15.90	16.97	1.91	1.77
31–35	32	16.69	17.47	1.70	2.13
36–40	35	16.74	18.16	1.95	2.08
41–45	37	16.54	17.64	2.14	2.06
46–50	45	17.36	17.96	2.01	2.30
51–55	42	17.38	18.92	1.88	2.29
56–60	31	17.86	19.48	2.39	3.26
61–65	29	18.99	20.33	2.18	2.76
66–70	31	19.90	21.44	3.15	3.97
71+	31	22.49	24.11	6.02	5.66
All Female Subjects	389	17.67	18.91	3.17	3.44

5.   Braden Scale - Copyright, Barbara Braden and Nancy Bergstrom, 1988. Reprinted with permission. All rights reserved.

BRADEN SCALE FOR PREDICTING PRESSURE SORE RISK

Patient's Name _____   Evaluator's Name_____   Date of Assessment _____

SENSORY PERCEPTION	1. Completely Limited	2. Very Limited	3. Slightly Limited	4. No Impairment			
ability to respond meaningfully to pressure-related discomfort	Unresponsive (does not moan, flinch, or grasp) to painful stimuli, due to diminished level of con-sciousness or sedation. OR limited ability to feel pain over most of body	Responds only to painful stimuli. Cannot communicate discomfort except by moaning or restlessness OR has a sensory impairment which limits the ability to feel pain or discomfort over ½ of body.	Responds to verbal commands, but cannot always communicate discomfort or the need to be turned. OR has some sensory impairment which limits ability to feel pain or discomfort in 1 or 2 extremities.	Responds to verbal commands. Has no sensory deficit which would limit ability to feel or voice pain or discomfort..			
MOISTURE	1. Constantly Moist	2. Very Moist	3. Occasionally Moist:	4. Rarely Moist			
degree to which skin is exposed to moisture	Skin is kept moist almost constantly by perspiration, urine, etc. Dampness is detected every time patient is moved or turned.	Skin is often, but not always moist. Linen must be changed at least once a shift.	Skin is occasionally moist, requiring an extra linen change approximately once a day.	Skin is usually dry, linen only requires changing at routine intervals.			
ACTIVITY	1. Bedfast	2. Chairfast	3. Walks Occasionally	4. Walks Frequently			
degree of physical activity	Confined to bed.	Ability to walk severely limited or non-existent. Cannot bear own weight and/or must be assisted into chair or wheelchair.	Walks occasionally during day, but for very short distances, with or without assistance. Spends majority of each shift in bed or chair	Walks outside room at least twice a day and inside room at least once every two hours during waking hours			
MOBILITY	1. Completely Immobile	2. Very Limited	3. Slightly Limited	4. No Limitation			
ability to change and control body position	Does not make even slight changes in body or extremity position without assistance	Makes occasional slight changes in body or extremity position but unable to make frequent or significant changes independently.	Makes frequent though slight changes in body or extremity position independently.	Makes major and frequent changes in position without assistance.			
NUTRITION	1. Very Poor	2. Probably Inadequate	3. Adequate	4. Excellent			
usual food intake pattern	Never eats a complete meal. Rarely eats more than ⅓ of any food offered. Eats 2 servings or less of protein (meat or dairy products) per day. Takes fluids poorly. Does not take a liquid dietary supplement OR is NPO and/or maintained on clear liquids or IV's for more than 5 days.	Rarely eats a complete meal and generally eats only about ½ of any food offered. Protein intake includes only 3 servings of meat or dairy products per day. Occasionally will take a dietary supplement. OR receives less than optimum amount of liquid diet or tube feeding	Eats over half of most meals. Eats a total of 4 servings of protein (meat, dairy products per day. Occasionally will refuse a meal, but will usually take a supplement when offered OR is on a tube feeding or TPN regimen which probably meets most of nutritional needs	Eats most of every meal. Never refuses a meal. Usually eats a total of 4 or more servings of meat and dairy products. Occasionally eats between meals. Does not require supplementation.			
FRICTION & SHEAR	1. Problem	2. Potential Problem	3. No Apparent Problem				
	Requires moderate to maximum assistance in moving. Complete lifting without sliding against sheets is impossible. Frequently slides down in bed or chair, requiring frequent repositioning with maximum assistance. Spasticity, contractures or agitation leads to almost constant friction	Moves feebly or requires minimum assistance. During a move skin probably slides to some extent against sheets, chair, restraints or other devices. Maintains relatively good position in chair or bed most of the time but occasionally slides down.	Moves in bed and in chair independently and has sufficient muscle strength to lift up completely during move. Maintains good position in bed or chair.				

Total Score

6. Functional Mobility Assessment (FMA)

FMA Date:___/___/_____   ID# (optional):_____

Functional Mobility Assessment (FMA)

DIRECTIONS:

Step 1. Please answer the following 10 questions by **placing an 'X' in the box under the response** (completely agree, mostly agree, slightly agree, etc.) that best matches your ability to function while using your current means of mobility (i.e., walking, cane, crutch, walker, manual wheelchair, power wheelchair or scooter). All examples may not apply to you, and there may be tasks you perform that are not listed. **Mark each question only one time.** The 10 statements relate to items identified as being common to all people therefore avoid answering "Does Not Apply". You also have the option to add comments related to your answer however this is not mandatory.

What is your current means of mobility device? (Check all that apply)	Walking_____ Walker_____ Cane_____ Crutch_____ Manual Wheelchair_____ Power Wheelchair_____ Scooter_____ Prosthetic_____ Orthotic_____

	Completely Agree	Mostly Agree	Slightly Agree	*Slightly Disagree	*Mostly Disagree	*Completely Disagree	Does not apply
1. My current means of mobility allows me <u>to carry out my daily routine</u> as independently, safely and efficiently as possible: (e.g., tasks I want to do, need to do, am required to do- when and where needed)							
Comments (optional):							
2. My current means of mobility meets my <u>comfort needs</u>: (e.g., heat/moisture, sitting tolerance, pain, stability)							
Comments (optional):							
3. My current means of mobility meets my <u>health needs</u>: (e.g., pressure sores, breathing, edema control, medical equipment)							
Comments (optional):							
4. My current means of mobility allows me <u>to operate</u> it as independently, safely and efficiently as possible: (e.g., do what I want it to do when and where I want to do it)							
Comments (optional):							

FMA Date:___/___/_____   ID# (optional):_____

	Completely Agree	Mostly Agree	Slightly Agree	*Slightly Disagree	*Mostly Disagree	*Completely Disagree	Does not apply
5. My current means of mobility allows me <u>to reach and carry out tasks at different surface heights</u> as independently, safely and efficiently as possible: (e.g., table, counters, floors, shelves)							
Comments (optional):							
6. My current means of mobility allows me <u>to transfer</u> from one surface to another: (e.g., bed, toilet, chair)							
Comments (optional):							
7. My current means of mobility allows me <u>to carry out personal care tasks</u>: (e.g., dressing, bowel/bladder care, eating, hygiene)							
Comments (optional):							
8. My current means of mobility allows me <u>to get around indoors</u>: (e.g., home, work, mall, restaurants, ramps, obstacles)							
Comments (optional):							
9. My current means of mobility allows me <u>to get around outdoors</u>: (e.g., uneven surfaces, dirt, grass, gravel, ramps, obstacles)							
Comments (optional):							
10. My current means of mobility allows me <u>to use personal or public transportation</u> as independently, safely and efficiently as possible: (e.g., secure, stow, ride)							
Comments (optional):							

7. Borg Scale of Perceived Exertion

How you might describe your exertion	Borg rating of your exertion	Examples (for most adults <65 years old)
None	6	Reading a book, watching television
Very, very light	7 to 8	Tying shoes
Very light	9 to 10	Chores like folding clothes that seem to take little effort
Fairly light	11 to 12	Walking through the grocery store or other activities that require some effort but not enough to speed up your breathing
Somewhat hard	13 to 14	Brisk walking or other activities that require moderate effort and speed your heart rate and breathing but don't make you out of breath
Hard	15 to 16	Bicycling, swimming, or other activities that take vigorous effort and get the heart pounding and make breathing very fast
Very hard	17 to 18	The highest level of activity you can sustain
Very, very hard	19 to 20	A finishing kick in a race or other burst of activity that you can't maintain for long

8. Pain Disability Index

Pain Disability Index: The rating scales below are designed to measure the degree to which aspects of your life are disrupted by chronic pain. In other words, we would like to know how much pain is preventing you from doing what you would normally do or from doing it as well as you normally would. Respond to each category indicating the overall impact of pain in your life, not just when pain is at its worst.

For each of the 7 categories of life activity listed, please circle the number on the scale that describes the level of disability you typically experience. A score of 0 means no disability at all, and a score of 10 signifies that all of the activities in which you would normally be involved have been totally disrupted or prevented by your pain.

Family/Home Responsibilities: This category refers to activities of the home or family. It includes chores or duties performed around the house (e.g. yard work) and errands or favors for other family members (e.g. driving the children to school).
No Disability 0__. 1__. 2__. 3__. 4__. 5__. 6__. 7 __. 8__. 9__. 10__. Worst Disability

Recreation: This disability includes hobbies, sports, and other similar leisure time activities.
No Disability 0__. 1__. 2__. 3__. 4__. 5__. 6__. 7 __. 8__. 9__. 10__. Worst Disability

Social Activity: This category refers to activities, which involve participation with friends and acquaintances other than family members. It includes parties, theater, concerts, dining out, and other social functions.
No Disability 0__. 1__. 2__. 3__. 4__. 5__. 6__. 7 __. 8__. 9__. 10__. Worst Disability

Occupation: This category refers to activities that are part of or directly related to one's job. This includes non-paying jobs as well, such as that of a housewife or volunteer.
No Disability 0__. 1__. 2__. 3__. 4__. 5__. 6__. 7 __. 8__. 9__. 10__. Worst Disability

Sexual Behavior: This category refers to the frequency and quality of one's sex life.
No Disability 0__. 1__. 2__. 3__. 4__. 5__. 6__. 7 __. 8__. 9__. 10__. Worst Disability

Self Care: This category includes activities, which involve personal maintenance and independent daily living (e.g. taking a shower, driving, getting dressed, etc.)
No Disability 0__. 1__. 2__. 3__. 4__. 5__. 6__. 7 __. 8__. 9__. 10__. Worst Disability

Life-Support Activities: This category refers to basic life supporting behaviors such as eating, sleeping and breathing.
No Disability 0__. 1__. 2__. 3__. 4__. 5__. 6__. 7 __. 8__. 9__. 10__. Worst Disability

9. 10m Wheelchair Propulsion Test

10. Posture and Postural Ability Scale

Posture and Postural Ability Scale, Client _____ Date_____

LEVEL OF POSTURAL ABILITY IN SUPINE (*client on a mat, plinth or bed*)

Quantity		
Level 1	Unplaceable in an aligned supine posture	
Level 2	Placeable in an aligned supine posture but needs support	
Level 3	Able to maintain supine when placed but cannot move	
Level 4	Able to initiate flexion of trunk (stabilise trunk to lift head or knees)	
Level 5	Able to transfer weight laterally and regain posture (roll to the side)	
Level 6	Able to move out of supine position (i.e roll into prone)	
Level 7	Able to move into and out of supine position (i.e into sitting and back)	
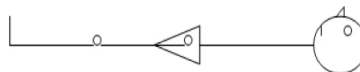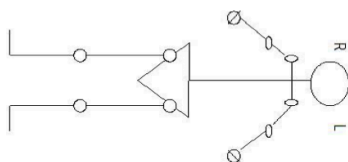
Wheelchair User Shoulder Pain Index (WUSPI)

- 15 item list
  - Bed-wheelchair transfer
  - Wheelchair-car transfer
  - Wheelchair-tub transfer
  - Loading wheelchair into car
  - Pushing wheelchair >10 min
  - Pushing wheelchair up ramps and inclines
  - Lifting objects from overhead
  - Putting on pants
  - Putting on t-shirt/pullover
  - Putting on button down shirt
  - Washing Back
  - Daily actives at work/school
  - Driving
  - Household chores
  - Sleeping

- Scored on a scale of 0-10

- Total Score out of 150

- Higher scores indicate greater interference

Curtis, K. A., Roach, K. E., et al. (1995)