

Evidence-Based Consumer Choice of Physical Rehabilitation Services

Physical rehabilitation after stroke is a challenging process that now requires renewed attention on the part of the consumers. Recent efforts to base stroke rehabilitation on sound evidence have contributed to the development of more effective methodologies that should improve the outcome of the rehabilitative efforts in both the acute and the post-acute stage of recovery. Most informed professionals in the field of physical and occupational therapy now theoretically acknowledge these methodologies. However, as has been the case in many evolving fields, evidence-based knowledge may take a while to trickle down to all professionals in the field. This puts a new onus on the consumers, in our case – the stroke victims and their families, to ensure that they receive the optimal service as suggested by evidence.

The best model for evidence-based rehabilitation is one that views the needs of the person recovering from stroke along five divisions of motor behavior:

1. Sensory-Motor control and Coordination
2. Strength
3. Range of Motion
4. Balance
5. Mobility

A recent review of the literature on Stroke Rehabilitation conducted by Dr. Teasell and colleagues (1) as well as a large body of evidence pertaining to these five aspects of human motion suggest the following:

1. The most effective way to improve control and coordination after stroke is by providing **intense and speed sensitive active training** (2-4). Methodologies that have strong evidence base are biofeedback and combinations of electrical stimulation with voluntary movement.
2. The most effective way to improve strength is to provide **progressive resistance training** tailored to the individual's needs (e.g., hip, knee, shoulder, etc.). It has been made clear that strength is essential to function. Elastic resistance and light bar bells, though necessary tools at times, cannot provide the same benefit as machines that are designed to progressively increase the resistance to the targeted joints (5).
3. An intense program of stretching or serial bracing can improve passive range of motion. An intense and speed sensitive active training best treats active range of motion, similar to motor control.
4. Improving balance is a complex process that requires increased strength and motor control. Again, dedicated technologies that provide intense, speed sensitive balance training for specifically targeted impairments would be most effective at improving static and dynamic stability (6).
5. Experts agree that the provision of repetitive training of available (and less available) movement is essential to the recovery of mobility (7). Technologies such as Body Weight Support (BWS) are especially effective at enabling safe and productive training (8-10).

Typical checklist/questions that someone ‘shopping’ or researching for a physical rehabilitation service for stroke rehabilitation may want to ask:

1. Does your service provide strength training for individuals post-stroke? If yes, what methods and equipment are used?
2. What methods do you use to improve motor control?
3. What type of equipment do you use to treat balance problems?
4. How do you treat active range of motion problems?
5. The research evidence supports body-weight support as an optimal training method for improving gait after stroke. Does your facility have body-weight support equipment and technology for gait re-training?

. For example, three particular facilities, regardless of their treatment philosophy, might present in the following manner:

	Motor Control	Strength	Balance	Range of Motion	Mobility
A	√ biofeedback	—	√ dedicated technology	√	M
B	M	M	M	√ M	M
C	√ biofeedback	√ Multi-Station, Pulleys	√ biofeedback	√ biofeedback	√ BWS

√ available dedicated technology as proposed in 1-5 above

M manual

— not addressed

After learning whether or not a facility addresses particular areas of motor behavior (and if it does – what effective methods of training are available for that purpose), a potential consumer of physical rehabilitation would have a better chance of making an educated decision as to how to best choose a rehabilitation provider.

References:

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