COMMUNITY REHABILITATION FOR INDIVIDUALS WITH STROKE

Jocelyn Harris, PhD, OT
Assistant Professor
School of Rehabilitation Science
McMaster University, Ontario
Canada

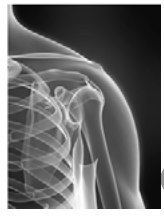
SHOULDER PROBLEMS POST STROKE

SPASTICITY/TONE

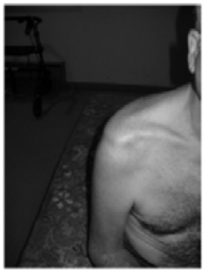
TONE: Mechanical changes to the soft tissue and joint - shortening of muscle fibers: resistance to stretch – formation of contractures

Neurogenic: Inappropriate reflex activity, altered modulation of the stretch reflex, and loss of reciprocal inhibition, abnormal co-activation of agonist and antagonist

The prevalence of increase tone/spasticity is approximately 20% in stroke but increases to 38% within the first year



Sub-Luxation of Shoulder



Post stroke shoulder/wrist

- Insufficient evidence for splinting or serial casting
- 2 trials of good quality found no difference when splint was used (both in neutral and functional position) vs regular therapy
- Strapping and slings reduce shoulder pain, do not effect upper limb function or scores on ADL - in fact can decrease them

DON'T SWEAT IT!!!

Shoulder pain: 48-84% incidence

- Onset 2-3 months post stroke
- Spasticity and shoulder pain are related
- Prolonged positioning not effective
- Un-controlled ROM leads to shoulder pain

- Acupuncture can reduce pain

TREATMENT FOR TONE/SHOULDER

- minimization of mechanical joint changes and maximization of function,
- education to client and family about preventative methods for future,
- maintain **ACTIVE** movement as possible

- Passive movement or stretching does not seem to provide benefit for tone, shoulder pain or disability measures

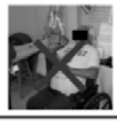
Handling of the Upper Extremity
Best Practice Guidelines

5.4.3 Management of Shoulder Pain following Stroke

5.4.3.1 Assessment and Prevention of Shoulder Pain

iii. Overhead pulleys should not be used

(Evidence Level A)



NO PULLEY ZONE!

Interprofessional Issue

Interprofessional Protocols/Initiative

- Training of all staff
- Individualized Care Plans
- Patient and Family Education

Anticipated Outcomes

- Improved consistency of care
- Improved communication
- Fewer incidence of shoulder pain/injury
- Improved functional outcomes

Recovery in the chronic stage

- 50% - moderate to severe disability
- Diminishing spent in hospital
- Goal in hospital – HOME
- FOCUS - resumption of roles, ability to complete ADL, and engage in leisure and social activities
- Rehabilitation therapists are experts!

Recovery in chronic stage

- Is it possible?
- Remediate or Compensate?
- Rehabilitation or Maintaining Gains/Prevention of decline – what is the focus?
- Transition between hospital and home…..

Models of service delivery

1 to 1 treatment

Group treatment

Fitness Programs

Tele-Rehabilitation

Chronic Disease Self-Management

1-1 Rehabilitation

Therapist Present | **Therapist Supervision**

Group: Fitness and Mobility exercise program (FAME) Pang et al 2005; Eng 2010 (N=63).

(www.rehab.ubc.ca/jeng.

- Focus: increase/maintain community participation through fitness
- Focus: motor function (muscle strength, balance, walking), cardiovascular fitness, bone density, executive functions and memory
- Inclusion: rise from a chair (arm rests can be used), 2) stand (hand support of a chair can be used) and 3) walk 3 metres (assistive devices can be used).
- After the warm-up, the major components address 1) functional strengthening, 2) balance and agility exercises and 3) aerobic fitness exercises.
- 60 min 2-3x per week with home work of 30 minutes of walking daily.
- Group setting was motivating, socially stimulating and a key aspect that enhanced their adherence to the program.

Example of exercises

Functional Strengthening Exercises	Agility Exercises
Sit to stand	Step up so 2 feet on stepper, then step down
Standing, rise on toes	Step sideways so 2 feet on stepper and step down over other side of stepper
Standing, lift toes to rest on heels	Stand and do quick lunge on command
Standing, push-up against the wall	Try to push instructor off balance
Standing, back against wall, bend knees and hold	Rise from chair, walk around chair and sit down
Fast walking	**Slow Balance Exercises**
Walking with long steps	Standing, forward reach
Endurance and Fitness Exercises	Heel to toe standing
Fast walking	Heel to toe walking
Walking with long steps	Standing on 1 leg
Sit-to-stand	Lunge position (weight-shift forward/backward, side to side)
Step up or step sideways onto steppers	Add slow head movements during the above exercises (look up/down, side to side)

Addition of Recreation/Leisure education to FAME (Rand et al 2010)

- 6 month program of exercise for 2 hours and recreation for 1 hour weekly.
- social activities as well as activities such as playing billiards, bowling, arts and crafts and cooking.
- introduced to other community-based exercise and fitness - widen their knowledge about community resources.
- battery of standard neuropsychological tests including response inhibition, cognitive flexibility, dual task (motor plus cognitive) and memory.
- Results: significant improvement in executive functioning and mobility
- High satisfaction with social aspect

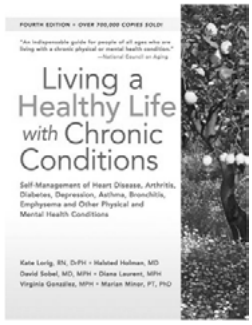
Chronic disease self-management

A Paradigm shift for health care professionals

Chronic disease self-management

- There is no cure for a stroke
- Life long disability: need to learn to manage condition
- Prevalent model of care in OA, Diabetes, COPD
- Focus: taking ownership of your health, the client is the expert
- Health care professionals are a resource – do not dictate treatment

STANDFORD MODEL:
(HTTP://PATIENTEDUCATION.STANFORD.EDU/PROGRAMS/CDSMP.HTML)



- Group Format
- Can be led by Clinician or peer

COMPONENTS OF SELF MANAGEMENT PROGRAM
(HEMA ET AL, 2012; MARSDEN ET AL 2010; HARRINGTON ET AL 2010)

- Promotion of knowledge
- Self-efficacy
- Goal setting
- Problem-solving
- Practice strategies
- Goal attainment
- Caution: one size does not fit all, need stroke specific focus (Jones F et al, 2012)

SELF MANAGEMENT COMPONENTS

Knowledge	Goal Setting
• Stroke Specific information e.g. recovery, mobility, hypertension • Booklet with information	• What are the client's goals • Rate them on level of importance and satisfaction with performance (1-10) • Prioritize

Problem Solving (Polatajko et al 2012)

- Goal
- Plan
- Do
- Check

(Meichenbaum and Goodman, 1971)

Resources

- Knowing when to get help
- Knowing whom to contact.

TAKE HOME MESSAGE

- Evaluation of client needs = method of service delivery
- Methods can be resource dependent
- Involvement of client in decision making is vital to engagement
- Involve family whenever possible

DISCUSSION/QUESTIONS