

Using The Nintendo Wii As An Adjunct To Conventional Rehabilitation Of Patients With Post- Stroke Upper Limb Weakness

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How it makes a difference to Rehab Intensity:

- Overtime, patients may find upper extremity exercises monotonous and boring and may lose motivation.
- Nintendo Wii (NW) gaming can make exercise fun.
- Use of NW gaming can engage patients who otherwise lack interest or motivation to complete normal exercise regimens.
- Once the patient is taught and becomes familiar with the NW, the patient can use the NW gaming system to continue upper limb exercise/activation in the evenings and on weekends (after hours).
- The use of the NW after hours offers patients an opportunity to work on their upper limb goals as well as socialization and leisure.
- Easy to modify existing games or customize games to adjust difficulty level and increase intensity.
- NW gaming also addresses: hand-eye coordination, memory, concentration, balance/endurance, communication, cognition, planning and thinking.

The Nintendo Wii In Action:



- ▶ **Nintendo Wii Helps Stroke–Patients Recover**
- ▶ **Combines all aspects of effective rehab: High intensity
Task specific
Improved QOL**



NuSteppin' It Up

Susan Wentworth

Grey Bruce Health Services

How it makes a difference to Rehab Intensity:

- Patients are able to utilize the Nustep when physio gym is closed
- Those patients who want therapy on the evenings/weekends are able to participate
- Family are encouraged to be with patient
- Nursing is able to provide supervision
- No longer a complete break in therapy intensity over the weekends

NuStep After Hours...Extending the Fun



Balance Class

Jennifer Ames

GBHS Owen Sound Rehab

How it makes a difference to Rehab Intensity:

- Additional 30 minutes of standing balance exercises with varying levels of assistance
- Promotes socialization
- Encourages families to participate
- Fun with lots of opportunity for laughter
- Opportunity to notice improvements in each others progress

Having Fun with Balance



Experience with using a LEAN process to increase therapy time

Nancy Brockenshire and John Norton
Windsor Regional Rehabilitation

How it makes a difference to Rehab Intensity:

Focused on patient's day – not the work day

- **7am – 9pm (not 8am- 4pm)**

Reviewed the opportunity to provide 'Group Classes' to supplement 1:1 therapy offered

- **Speech, Dressing & Grooming, Sit & Stand, Ambulation, Eating**

Reviewed the opportunity to combine various disciplines in rehab interventions

- **Pragmatics Group**

Adapted Standards for ALC patients - allowing Allied Health to focus more on appropriate cases

Communication Tools

Deb Willems

SWO Stroke Network

How it makes a difference to Rehab Intensity:

- Patient/family/other team members able to reinforce therapy goals outside of therapy time
- Engages patients/families to a greater extent in their recovery
- Helps bring meaning and meaningful activity into rehabilitation
- Increased practice/repetition/effort when the patient really cares about the activity
- Promotes the practice of skills gained in therapy into the patient's daily routine more consistently

Communication Tools



Rusk Institute of
Rehabilitation Medicine
NYU LANGONE MEDICAL CENTER

Rehab Notebook

Jane Doe
108C

Whiteboard Communication

Today is: _____

Your Nurse is: _____

Your Doctor is: _____

Your therapist is: _____

Goals:

Safety:

Your planned discharge date:

Make Feeding Safer



Over 50% of the residents in your home have swallowing or feeding problems. People with stroke are at increased risk of swallowing problems.

Those with swallowing problems are at risk of:

- pneumonia
- malnutrition
- dehydration
- weight loss
- social isolation



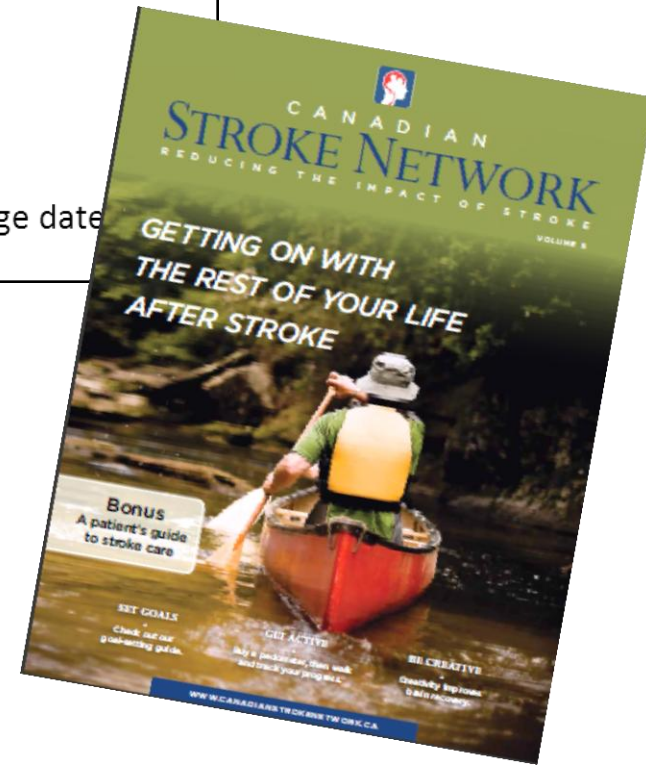
What to listen for

- 1 a wet, gurgly or phlegmy sounding voice
- 2 throat-clearing
- 3 coughing or choking
- 4 resident complaining of:
 - A 'lump' in their throat
 - Throat 'feels tight'
 - Something 'sticking' in their throat
 - Heartburn

What to look for

- 1 Pocketing food or medication in mouth or cheek
- 2 Spitting out food
- 3 Drooling
- 4 Problems chewing
- 5 Repetitive swallowing
- 6 Shortness of breath after meals
- 7 Taking a long time to eat
- 8 Losing interest in food or leaving food on their plate

If you notice a change in a resident's eating or swallowing, it should be



Functional Electrical Stimulation

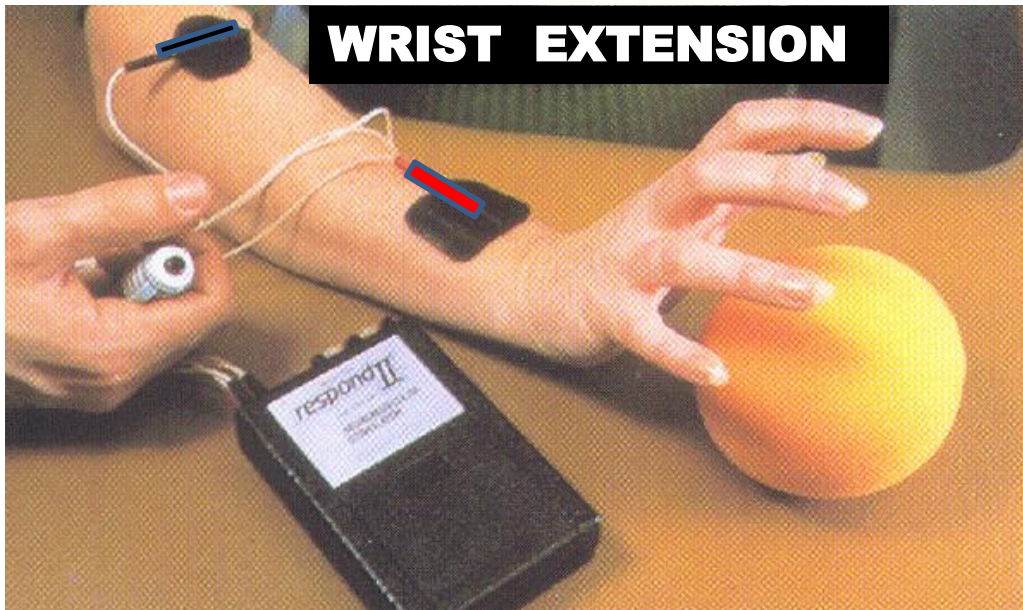
FES

Janet L. Brown PT MEd

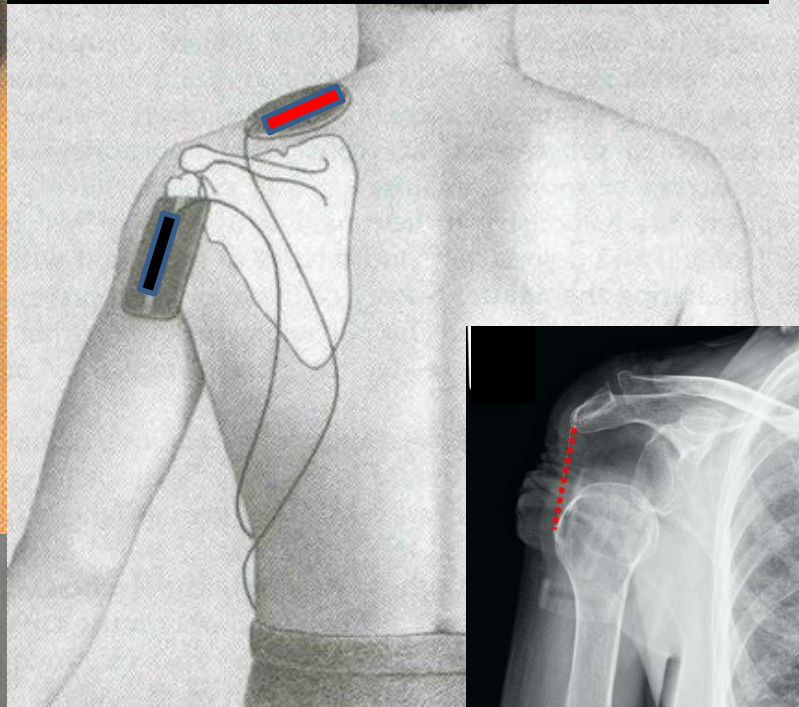
How it makes a difference to Rehab Intensity:

- Level 1 evidence supporting effectiveness of Rx
- Allows patient to work independent of Therapist
- Develops volitional control *with* electrical stim support
- Progress treatment by altering ramp &/or intensity
- Portable for home, hospital, clinic application
- Adds hours / week of therapy & repetition
- Easily applied by patient, caregiver or therapist

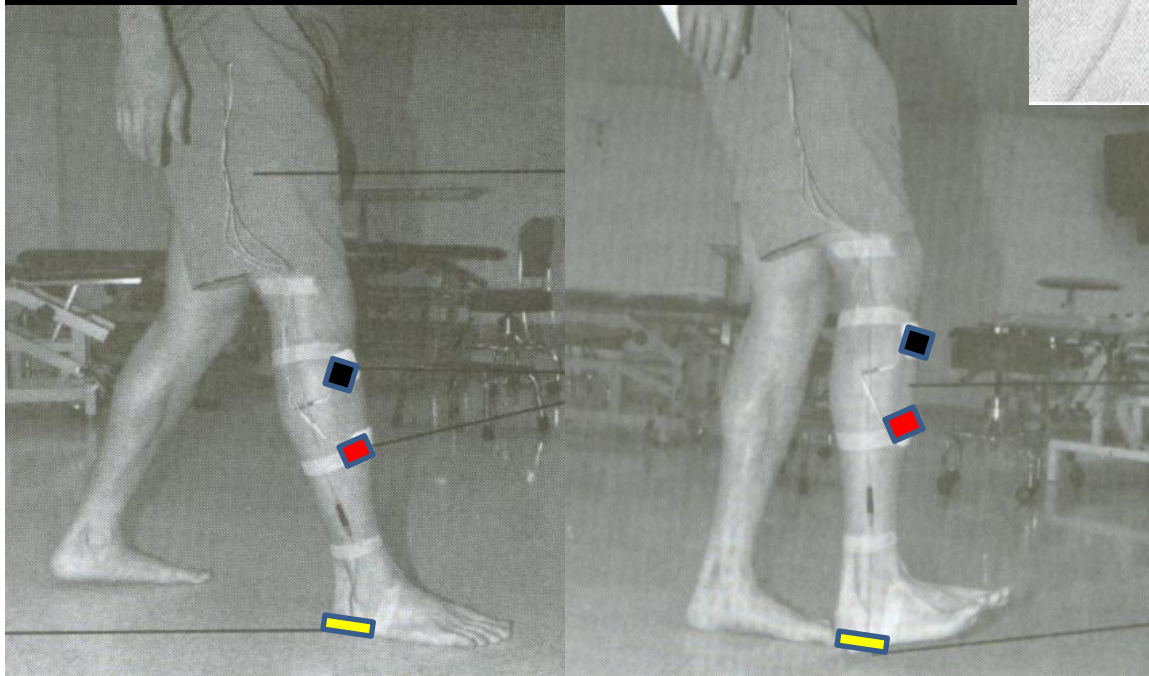
WRIST EXTENSION



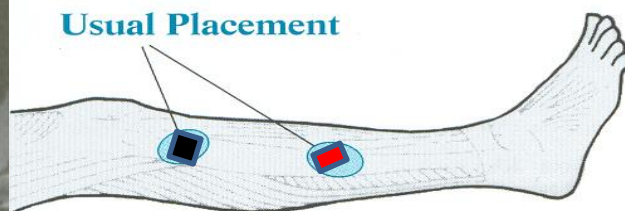
SHOULDER SUBLUXATION



DORSIFLEXION with Heel SWITCH

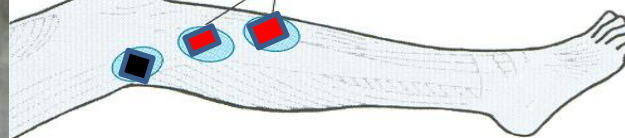


Usual Placement



Alternative Placements

Optional (+) electrode placements.



Mental Practice / Mental Imagery

Paula Gilmore
SWO Stroke Network

How it makes a difference to Rehab Intensity:

- The same musculature and neurons are activated during MP as during physical practice of the same task.
- Repeated MP use can allow for a practice effect to occur and provide a means to receive additional therapy.
- No risks, easy to do and can be completed in any treatment setting (e.g. hospital room, therapy department, home etc.).
- Fun and relaxing for stroke survivors

MOTOR IMAGERY

Information for Patients and Families

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What is motor imagery?

Motor imagery is a form of therapy that can be used to strengthen arms, hands, feet and/or legs that may have been weakened by stroke. In motor imagery, we mentally rehearse the movement of the affected body parts, without ever actually attempting to perform the movement. In other words, you imagine doing the movement in your mind. For example, you may imagine hitting a golf ball or drinking a cup of tea. Researchers have shown that this "mental rehearsal" actually works, as it stimulates the brain areas responsible for making the weaker arm or leg move.



Graded Repetitive Arm Supplementary Program (GRASP)

Sandra Connolly OT Reg.(Ont.)
Community Stroke Rehabilitation Team
Huron Perth Healthcare Alliance

How it makes a difference to Rehab Intensity:

- Increased time spent doing therapy exercises
- Each exercise can be done with increased frequency and number of repetitions
- Very portable, can be done in a variety of settings
- Encourages client self-management
- Clients of varying abilities can be successful

GRASP Kit Items



A Model of Care to Enhance Therapy Intensity

Eileen Britt

Parkwood Hospital

St. Joseph's Health Care, London

How it makes a difference to Rehab Intensity:

Occupational Therapy/Physiotherapy Assistant Model

- Creation of new OT/PTA positions provide extended hours of therapy, 0700-1830 weekdays and 0700-1500 on weekends; providing 7 days/week of therapy.
- Dual trained assistants enable provision of interdisciplinary treatment thereby creating efficiencies, continuity of care and enhanced communication.
- Provision of enhanced morning and evening ADL's – collaborative with nursing
- Improved communication between assistants and therapists especially from evenings and weekends

Therapeutic Recreation Specialist Model

- One evening/week focused on group community integration activity
- Functional and collaborative goal setting in a realistic environment
- Reduced competition for prime time treatment hours
- Supports higher level patient goals and reduced evening downtime

Possible New PTA/OTA Schedule

Day Shift 7:00-15:00		Afternoon Shift 10:30-18:30	
TIME		TIME	
7:00	PREP		
7:30	ADL		
8:15	ADL		
9:00	ADL		
9:30	OT		
10:00	OT		
10:30	OT	10:30	PT
11:00	OT	11:00	PT
11:30	OT	11:30	PT
12:00	BREAK	12:00	BREAK
13:00	PT	13:00	PT
13:30	PT	13:30	PT
14:00	PT	14:00	OT
14:30	PT	14:30	OT
15:00	DONE	15:00	OT
		15:30	OT
		16:15	BALANCE GROUP
		16:45	Amb pt's to DR
		17:00	NP care/stats/ help in DR
		17:30	ADL
		18:30	DONE

Daily Treatment- new schedule

4-ADL's
 9-OT sessions
 9-PT sessions
 Balance group- 4x weekly
 Bean Bag Baseball -1x weekly Tuesday at 1600

Daily treatment -old schedule

4 ADL's
 7 PT sessions
 7 OT sessions
 Balance group -4x weekly