WSO Stroke Rehabilitation Checklist

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The Stroke Rehabilitation Checklist has been developed to help healthcare professionals assess and identify potential interventions to improve physical rehabilitation in patients after stroke. This checklist contains key elements of stroke rehabilitation care and provides specific actionable recommendations that can be adapted in settings with both basic and more advanced resources. This checklist is intended to be used by healthcare team members (medical or allied health professionals with rehabilitation training) in the acute/inpatient care setting.

Stroke Rehabilitation Assessment

Assessment of impairments, activity limitations and participation restriction:

- [ ] Use standardized and valid outcome measures.
- [ ] Start initial screening within 48 hours of admission.
- [ ] Complete additional screening of impairments, activity limitations and participation restriction within 2 weeks of stroke onset.
- [ ] Reassess periodically.
- [ ] Adapt assessment tools for use in people with communication differences or limitations.

Global stroke assessment should include assessment of the following domains:

- [ ] Pre-stroke functional ability and medical comorbidities.
- [ ] Cognitive impairment.
- [ ] Communication Impairment.
- [ ] Dysphagia.
- [ ] Motor impairment, including mobility and fatigue.
- [ ] Psychological status (e.g., mood, anxiety, depression).
- [ ] Sensory Impairments, including touch, pain, vision and hearing.
- [ ] Activity limitations (e.g., activities of daily living).
- [ ] Personal factors (e.g., coping).
- [ ] Environmental factors (e.g., living environment, level of family/caregiver support).
- [ ] Ability to participate in rehabilitation.
- [ ] Readiness to assume an active role in managing their own care.

Initial assessment of physical function (*Priority screening areas):

- [ ] Stroke Severity *.
- [ ] Mobility (bed mobility, transfers, ambulation with or without walking aid or wheelchair propulsion) *.
- [ ] Motor Function:
    - Trunk control.
    - Upper extremity (paresis/muscle strength, individuated finger movements, coordination).
    - Lower extremity (paresis/muscle strength, coordination).
- [ ] Spasticity.
- [ ] Sensation.
- [ ] Balance and risk of falls.
- [ ] Pain.
- [ ] Post-stroke fatigue.
- [ ] Functional Capacity and Activities of Daily Living (self-care and activities related to independent living)*.

Suggested outcome measures for assessment of physical function

Gait, balance, and transfers:

- [ ] 6 Minute Walk Test.
- [ ] 10 Meter Walk Test.
- [ ] Berg Balance Scale.
- [ ] Functional Gait Assessment.
- [ ] Activities-Specific Balance Confidence Scale.
- [ ] 5 Time Sit to Stand Test.

Motor impairments and activity limitations:

- [ ] Fugl-Meyer Assessment (Motor Performance).
- [ ] Functional Independence Measure.
- [ ] Orpington Prognostic Scale (acute care settings).
- [ ] Postural Assessment Scale for Stroke Patients.
- [ ] Stroke Impact Scale.
- [ ] Stroke Rehabilitation Assessment of Movement.
- [ ] Tactile Discrimination Test.

Stroke Rehabilitation Interventions

General principles for rehabilitation interventions:

- [ ] Provide stroke rehabilitation care by an interdisciplinary team.
- [ ] Establish an individualized rehabilitation plan to address rehabilitation needs.
- [ ] Involve stroke survivor, their family and any informal caregivers to participate in goal setting.
- [ ] Review and update goals regularly.
- [ ] Once people with stroke are medically stable and able to participate in active. rehabilitation, provide rehabilitation therapy and mobilization as early as possible (i.e. >24h post-stroke).
- [ ] Provide high intensity/dose of rehabilitation interventions commensurate with anticipated benefit and tolerance.
- [ ] Engage people with stroke in training that is meaningful, engaging, repetitive, adapted and goal-oriented.
- [ ] Offer adaptive training (such as the use of assistive devices) to improve performance of specific functional tasks.
- [ ] Provide strategies and education for stroke prevention to people with stroke and their family (e.g., medical management, lifestyle changes, adapted exercises).

Specific focus for interventions

Upper limb

Basic recommendations

- [ ] Teach healthcare workers and families to protect and support the paretic arm during movement, transfers, ambulation and wheelchair use (avoid pulling on the paretic arm).
- [ ] Encourage the use of patients' paretic arm/hand during functional tasks.
- [ ] Adopt strategies to restore range of movement, strength, coordination and function.
- [ ] Avoid the use of hand and wrist orthoses (splints) as part of routine practice.

Advanced recommendations

- [ ] Use task-oriented training to simulate partial or whole skills required in activities of daily living (e.g. folding, buttoning, pouring, and lifting).
- [ ] Accompany functional training of the paretic arm/hand with retraining trunk control.

For those with little to no voluntary muscle activity:

- [ ] Teach compensatory techniques and provide adaptative equipment to enable basic activities of daily living.
- [ ] Continue teaching compensatory techniques until the patient can manage basic activities of daily living independently or until recovery of active movement occurs.

Balance/gait limitations

Basic recommendations

- [ ] Provide intensive, repetitive, mobility- task training for all individuals with gait limitations.
- [ ] Offer a balance training program for those with poor balance, low balance confidence, and fear of falls or for those at risk for falls.
- [ ] Provide an assistive device or orthosis (e.g., cane, walker, wheelchair, ankle-foot orthosis).
- [ ] Provide fall prevention strategies to the person with stroke and their family.

Advanced recommendations

- [ ] Provide individually tailored aerobic training involving large muscle groups to enhance cardiovascular endurance and cognitive function.
- [ ] Offer balance training.
- [ ] Consider using circuit class therapy (with a focus on overground walking practice) or treadmill training with or without body weight support.

Spasticity

Basic recommendations

- [ ] Use antispastic pattern positioning, range-of-motion exercises, and/or stretching.
- [ ] Advanced recommendations.
- [ ] Teach self-stretching and range-of-motion exercises.
- [ ] Consider medication or targeted injection of botulinum toxin.

Fitness training

Basic recommendations

- [ ] Encourage people with stroke to participate in ongoing regular physical activity adapted to their level of disability.

Inform people who are participating in fitness activities after stroke about common potential problems, such as shoulder pain, fatigue and advise them to seek advice from their physician or therapist if these occur.

Prevention and Management of Co-morbidities

Follow established protocols to prevent co-morbidities and optimize rehabilitation:

- [ ] Swallowing screen and oral hygiene.
- [ ] Nutrition and hydration.
- [ ] Skin breakdown and contractures.
- [ ] Bowel and bladder incontinence.
- [ ] Positioning and early mobilization.
- [ ] Functional status, mobility, and deep venous thrombosis.
- [ ] Temperature.
- [ ] Falls prevention.
- [ ] Medical management (e.g., blood pressure control, management of diabetes, etc).

Transitions in Care and Community Rehabilitation

- [ ] Refer the person with stroke to appropriate community services or resources to support their needs and priorities.
- [ ] Offer people with stroke and their families emotional and psychosocial support and support toward independent decision making.
- [ ] Promote the practice and transfer of skills gained in in-patient rehabilitation into everyday life after discharge.

Resources to consult:

Assessment: APTA StrokeEDGE, Rehabilitation Measures Database, Stroke Engine Assessment

Treatment: Stroke Engine interventions, ViaTherapy application

Clinical Decision Making for physical therapists: Deutsch JE, Gill-Body KM, Schenkman M. Updated Integrated Framework for Making Clinical Decisions across the Lifespan and Health Conditions. Physical Therapy. 2022 Jan 5. Https://doi.org/10.1093/ptj/pzab281

Addendum - Additional specific therapies to consider based on individual needs and stroke severity

Treatment target	Evidence-based therapy
Management of the shoulder, arm and hand*	Repetitive task-specific training Range of motion exercises Mental imagery Functional Electrical Stimulation (FES) Traditional or modified constraint-induced movement therapy Strength training Supplemental training program Mirror therapy† Sensory stimulation† Virtual reality† Non-invasive brain stimulation†
Lower-Limb Gait Training	Task and goal-oriented training Strength training Treadmill-based gait training Rhythmic auditory stimulation Electromechanical (robotic) assistedn gait training devices (for those who would not otherwise practice walking) Functional electrical stimulation Biofeedback Virtual reality† Mental Practice†
Lower limb weakness	Task specific training Repetitive practice using cycling Electrical stimulation
Balance	Trunk training/seated balance training Standing practice Force platform biofeedback and task-oriented training with or without multisensory intervention Partial body weight support treadmill training The use of unstable surfaces and balance boards Cycling Aquatic balance training Tai Chi Balance training combined with virtual reality (in the late phase of stroke, but not in the early phase)

*Legend: * The SAFE algorithm can be used to determine specific therapies based on stroke severity*

† Modality that should be used as adjunct to motor therapy