NEURORESTORE CLINICAL PATHWAY

Understanding Stroke & Recovery

A Guide for Patients, Families, and Carers

Attachment: NR-INFO-01
Neurorehabilitation Service
Patient & Carer Education

What is a Stroke? A stroke occurs when blood flow to part of the brain is disrupted, depriving cells of oxygen and essential nutrients. Recovery begins immediately upon stabilization. Through *neuroplasticity*—the brain's natural capacity to rewire and adapt—targeted therapy helps build new pathways to restore physical, cognitive, and communicative ability.

1 PRIMARY TYPES OF STROKE

Ischaemic Stroke

~85% OF CASES

Caused by a mechanical blockage in an artery supplying blood to brain tissue.

- **Thrombotic:** A clot develops directly in a brain blood vessel narrowed by plaque (atherosclerosis).
- **Embolic:** A blood clot or fragment travels from elsewhere (commonly the heart or neck arteries) to lodge in the brain.

Haemorrhagic Stroke

~15% OF CASES

Occurs when a weakened blood vessel ruptures and leaks blood into or around brain tissues.

- **Intracerebral (ICH):** Bleeding directly into brain parenchyma, commonly linked to hypertension.
- **Subarachnoid (SAH):** Bleeding into the subarachnoid space, often from an aneurysm rupture.

Transient Ischaemic Attack (TIA) — "Mini-Stroke"

URGENT WARNING EVENT

A temporary vascular blockage where symptoms resolve rapidly without permanent tissue death on neuroimaging. A TIA is a vital warning sign indicating an elevated risk of recurrent major stroke. Immediate medical evaluation and secondary prevention are essential.

2 COMMON FUNCTIONAL IMPACTS & SYMPTOMS

Because different brain lobes govern specific bodily functions, symptoms vary according to stroke territory:

Clinical Domain	Manifestations & Symptoms	Therapy Focus
Motor & Mobility	Hemiparesis (one-sided weakness), hemiplegia (paralysis), impaired trunk control, gait instability.	Balance, gait retraining, strength, safe transfers.
Muscle Tone & Spasticity	Involuntary stiffness, muscle resistance, spasms, abnormal resting limb posture over subsequent weeks.	Positioning, stretching, medical spasticity therapies, splints.
Communication & Speech	Aphasia (language production/comprehension), dysarthria (slurred speech), apraxia of speech.	Speech therapy, language retraining, augmentative tools.
Swallowing (Dysphagia)	Coughing with fluids, delayed swallow reflex, risk of silent aspiration into lungs.	Diet texture modification, safe swallow techniques.
Cognition & Sensation	Short-term memory difficulties, spatial neglect, sensory loss, central post-stroke neuropathic pain.	Cognitive retraining, sensory integration, visual scanning.
Emotional & Fatigue	Post-stroke fatigue (pathological tiredness), emotional lability, post-stroke depression or anxiety.	Energy conservation, pacing, neuropsychology counseling.

F.A.S.T. Reminder: Facial droop, Arm weakness, Slurred speech, Time to call emergency services immediately if new symptoms occur.

RECOVERY ROADMAP

The NeuroRestore Recovery Pathway

Phased Rehabilitation & Coordinated Multidisciplinary Management

Goal-Oriented Recovery
Evidence-Based Practice
Long-Term Functional Independence

3 THE THREE REHABILITATION PHASES

Rehabilitation is structured according to post-stroke physiological healing windows:

PHASE I: ACUTE

Days 1 – 7

- Vascular & medical stabilization
- Early bedside assessment
- Aspiration prevention & swallow testing
- Safe positioning to avoid contractures
- Early mobilization feasibility

PHASE II: SUBACUTE

Weeks 1 – 12

- **Optimal neuroplastic window**
- Inpatient or intensive day rehab
- Task-specific intensive motor practice
- Upper limb & functional ADL training
- Active spasticity evaluation & intervention

PHASE III: COMMUNITY

Month 3 & Beyond

- Home & community integration
- Return to work / driving assessment
- Ongoing spasticity management
- Long-term conditioning & aerobic health
- Secondary stroke risk prevention

4 YOUR NEURORESTORE MULTIDISCIPLINARY TEAM

Rehabilitation Physician

Leads clinical care plans, manages post-stroke complications, medical secondary prevention, prescription of targeted tone treatments (including botulinum toxin for focal spasticity), and medication optimization.

Physiotherapist (PT)

Focuses on gross motor retraining, core strength, postural balance, gait re-education, transfer independence, and prescription of gait aids or orthoses (e.g., AFO for foot drop).

Occupational Therapist (OT)

Restores practical daily independence (self-care, showering, meal prep), evaluates upper-limb function, cognitive screening, home safety assessments, and adaptive equipment prescription.

Speech Pathologist (SLP)

Manages dysphagia (swallowing safety to avoid aspiration), delivers evidence-based therapy for speech clarity, voice, and expressive/receptive language rehabilitation (aphasia).

Neuropsychologist / Psychologist

Specialized testing of memory, processing speed, and executive reasoning; guidance on behavioral changes, mood support, and psychological adaptation to life changes.

Social Work & Dietetics

Social Workers facilitate NDIS/aged-care navigation, family support, and community services. Dietitians optimize nutrition, hydration consistency, and metabolic health.

5 ESSENTIAL PRINCIPLES FOR MAXIMIZING RECOVERY

- **Repetition Drives Neuroplasticity:** The brain requires intensive, high-repetition practice to forge new motor and language circuits. Complete your self-directed therapy exercises daily.
- **Proactive Tone & Spasticity Control:** Alert your team promptly if muscles feel progressively tight or resistant. Early medical treatment prevents permanent tendon contractures.
- **Pacing & Fatigue Management:** Post-stroke tiredness is brain fatigue, not laziness. Alternate intensive therapy blocks with planned cognitive rest intervals.
- **Secondary Stroke Prevention:** Strict blood pressure regulation, antiplatelet/anticoagulation adherence, cholesterol control, and routine follow-up with your medical team.

Questions about your NeuroRestore plan? Contact your Rehabilitation Coordinator: [Coordinator Contact / Extension]

Clinic: NeuroRestore Specialist Clinic