CLINICAL PATIENT INFORMATION LEAFLET | ACTIVATE PATHWAY

Medical Reconditioning & Functional Restoration

Overcoming post-acute deconditioning, restoring physiological stamina, and building everyday functional reserve.

Physical and functional deconditioning is a complex systemic state marked by profound muscular weakness, blunted cardiovascular endurance, postural instability, and severe fatigue following prolonged bed rest, major surgery, severe systemic illness, or extended hospitalization. Resting in bed may protect acute tissues, but inactivity rapidly degrades muscle mass, blunts autonomic reflexes, and compromises functional independence. The **Activate Pathway** is a restorative medical rehabilitation program specifically engineered to rebuild physiological stamina, restore mobility, and re-establish daily confidence.

1. The Physiology of Deconditioning: Why Inactivity Takes a Heavy Toll

- **Rapid Skeletal Muscle Wasting (Sarcopenia):** Inactive muscle loses mass and contractile strength at up to 1.5–2% per day of strict bed rest, preferentially impacting antigravity postural muscles (quadriceps, gluteals, and calf complexes).
- **Cardiovascular Deconditioning:** Prolonged recumbency reduces circulating plasma volume, diminishes cardiac stroke volume, and causes baroreceptor blunting, triggering postural hypotension (dizziness upon standing) and rapid heart rates during light exertion.
- **Respiratory & Metabolic Decoupling:** Decreased chest wall compliance and reduced diaphragm excursion reduce functional lung capacity, causing breathless sensations during minimal daily activities.
- **Bone & Joint Demineralisation:** Lack of axial skeleton loading accelerates bone calcium resorption, stiffens periarticular connective tissues, and degrades proprioceptive joint feedback, markedly multiplying fall risks.

2. The Activate Staged Reconditioning Pathway

Phase & Focus	Physiological Objectives	Clinical Precautions & Monitoring	Structured Interventions & Milestones
Phase 1: Reactivation & Upright Tolerance	• Overcome orthostatic intolerance. • Reactivate antigravity muscles. • Safe assisted transfers. • Reduce breathlessness.	• Monitor blood pressure drops upon standing. • Screen for deep vein thrombosis. • Pulse oximetry monitoring. • Avoid acute exhaustion.	• Progressive tilt and edge-of-bed sitting. • Recumbent cycling (MOTOmed). • Isometric gluteal & quad sets. • Diaphragmatic breathing mechanics. • Bed-to-chair transfer re-education.
Phase 2: Functional Mobility & Stamina	• Non-antalgic assisted walking. • Upright standing balance. • Rebuild upper/lower limb power. • Basic ADL independence.	• Rate of Perceived Exertion (RPE 3–4/10). • Gradual aid reduction. • Fall risk precautions. • Hydration and nutritional pacing.	• Parallel bar to walking frame gait retraining. • Sit-to-stand repetitions (chair rises). • Resistance band & light dumbbell loading. • Standing balance and weight shifting. • Personal hygiene & grooming retraining.
Phase 3: Community Endurance & Resilience	• Independent unassisted mobility. • Stair climbing tolerance. • Cardiovascular stamina. • Return to community life.	• Controlled progressive overload. • Pacing cognitive and physical energy. • Monitor musculoskeletal overuse strain.	• Treadmill and upright stationary cycling. • Multi-step obstacle & outdoor terrain walking. • Functional domestic task simulation. • Higher-repetition resistance circuits. • Independent long-term exercise planning.

3. The Multidisciplinary Activate Care Team

Reconditioning is complex and demands coordinated medical surveillance alongside progressive physical re-education:

- **Rehabilitation Medicine Physician:** Leads the clinical reconditioning team, conducts holistic cardiopulmonary and metabolic evaluations, manages multi-morbid medical regimens, optimizes polypharmacy (deprescribing sedatives or hypotensives), and prescribes customized rehabilitation intensity.
- **Physiotherapist:** Assesses baseline mobility and balance, delivers progressive tilt and upright reconditioning, prescribes structured motor retraining and gait re-education, and guides safe weaning from walking frames and sticks.
- **Occupational Therapist:** Evaluates activities of daily living (showering, dressing, cooking), delivers energy conservation and pacing education, assesses home environmental hazards, and prescribes assistive daily living equipment.
- **Exercise Physiologist:** Specializes in subacute-to-community aerobic conditioning, graduated resistance loading, and exercise tolerance protocols to restore cardiovascular fitness and muscular power.
- **Clinical Dietitian:** Prescribes high-protein, calorie-dense nutrition to reverse post-acute catabolism and sarcopenia, manages hydration regimes to stabilize blood pressures, and oversees metabolic fuel requirements.

4. Practical Principles for Overcoming Fatigue & Rebuilding Stamina

- **The 4 P's of Energy Conservation:** Prioritize tasks that matter most; Plan demanding tasks across the week; Pace yourself with regular small rests before exhaustion; Position yourself comfortably (e.g. sit while dressing or chopping vegetables).
- **Hydrate and Counteract Postural Dizziness:** Drink fluids regularly throughout the day. Perform lower limb calf pumps and squeeze your buttocks before standing up from a bed or chair to prevent blood pooling and lightheadedness.
- **Move Frequently in Small Doses:** Short, frequent bouts of walking or light exercise throughout the day are far more effective and less fatiguing than one exhausting workout.
- **Fuel Muscle Recovery with Protein:** Include a protein source (dairy, eggs, legumes, tofu, fish, or poultry) in every meal to supply essential amino acids for rebuilding depleted muscle tissue.

5. Warning Signs Requiring Prompt Medical Review

Pause physical exertion and contact your clinical team or seek urgent medical attention if you experience:

- Sudden onset of chest tightness, chest pressure, angina, or radiating jaw/left arm discomfort.
- Severe lightheadedness, near-fainting, or persistent blacking out upon standing.
- Unexplained shortness of breath disproportionate to the level of physical exertion.
- Acute calf pain, swelling, warmth, or sudden unilateral limb weakness and instability.

Activate Clinical Pathway | Practice Attachment

This leaflet is designed as a patient educational guide for medical reconditioning and functional restoration. Because underlying cardiopulmonary health, functional reserves, and medical conditions vary, always follow the individualized activity guidelines and precautions prescribed by your Rehabilitation Medicine Physician and allied health team.