SMARTfit® Cognitive-Motor Dual-Task Training

Interactive dual-task training to enhance cognitive-motor skills, balance, coordination and participation

What is SMARTfit®?

SMARTfit® is an interactive therapy system that integrates cognitive challenges with motor tasks through gamified exercises using touchscreen displays, targets (Strike Pods), and app-based programming. The system allows therapists to create structured, engaging, and measurable tasks that challenge both thinking and physical movement simultaneously — a concept known as *dual-task training* (Neurotek SMARTfit, n.d.; Royal Rehab LifeWorks, 2026).

SMARTfit products include:

- **SMARTfit Mini** – compact, high-impact cognitive-motor training station.
- **SMARTfit Mini – Low Impact** – clinical programming with cognitive tests and dual-task activities.
- **SMARTfit Strike Pods** – portable wireless targets for dynamic layouts.
- **SMARTfit Youth & Active Ageing Programs** – tailored activities across age ranges.

How SMARTfit Supports Children in Therapy

SMARTfit's dual-task training simultaneously challenges physical and neurocognitive systems. This type of simultaneous motor and cognitive demand accelerates neuroplasticity, encouraging stronger connections between brain and body for more efficient real-world functioning.

Therapeutic Benefits

✓ Cognitive-Motor Integration & Executive Function
Dual-task exercises require planning, memory, inhibition and decision-making while moving, supporting higher-level cognitive processing that underpins classroom tasks and everyday problem-solving.

✓ Balance, Coordination & Body Awareness
Systems that require reaching, stepping and responding to visual cues support vestibular, proprioceptive and visual-motor integration — skills critical for safe navigation of environments and participation in physical activities.

✓ Engagement & Motivation Through Play
Game-like activities, score tracking and immediate feedback increase therapy enjoyment and participation intensity — essential predictors of meaningful change.

✓ Objective Measurement & Progress Tracking
Therapists can capture real-time performance metrics (reaction accuracy, response time, dual-task cost indicators) to demonstrate progress toward goals and inform therapy decisions.

✓ Transfer to Functional Skills
Research shows that cognitive-motor dual-task training can improve outcomes like balance, gait, motor function and cognitive performance across populations, suggesting broader relevance for paediatric and developmental therapy.

NDIS-Aligned Clinical Value

SMARTfit supports meaningful outcomes that align with NDIS capacity-building and participation goals, including:

- **Increased motor coordination and balance**
- **Improved cognitive processing, attention and executive function**
- **Enhanced participation in play, school and community activities**
- **Greater confidence in multi-step tasks and dual-demands**
- **Capacity building in everyday motor-cognitive skills**

Therapy should be clinically supervised and goal-directed, with SMARTfit use linked to measurable outcomes consistent with NDIS funded supports such as *Improved Daily Living Skills* and *Increased Social & Community Participation*.

What a SMARTfit Session Looks Like

- **Clinical Assessment** — Establish baseline cognitive-motor function and goals.
- **Dual-Task Programming** — Choose exercises that match needs (e.g., memory + reach, decision-making + stepping).
- **Interactive Game Play** — Child completes tasks that integrate movement with cognitive challenges.
- **Real-Time Feedback** — Performance is tracked and visualised.
- **Progress Monitoring** — Ongoing measurement informs progression and goal attainment.

SMARTfit activities are paediatric-friendly, customizable, scalable and motivational, making them well-suited to therapy environments.

Evidence & Research Rationale

While brand-specific clinical trials for SMARTfit are not yet widely published, research on dual-task training — the foundational principle of SMARTfit — shows benefits across several domains:

- **Cognitive-motor balance training** yields improvements in balance and cognitive performance in clinical populations when compared with single-task training alone.
- **Dual-task interventions** have been shown to significantly enhance both motor function and cognitive outcomes (e.g., working memory, postural stability) when compared with no-training controls.
- **Cognitive-motor dual-task training** research suggests improvements in balance control and executive function, which are foundational for participation in daily activities.

Emerging evidence indicates these integrated training approaches may benefit children and adolescents for motor learning and cognitive development, though more rigorous paediatric trials are needed.

Who May Benefit?

SMARTfit dual-task training can be considered for children with:

- Motor planning or balance challenges
- Attention or processing speed needs
- Executive function or working memory goals
- Difficulty with task sequencing or multi-step activities
- Participation barriers in school play or group activities

Therapists individualise programming to match each child's support needs and functional goals.

Why Children's Therapy Services Queensland?

At Children's Therapy Services Queensland, SMARTfit is delivered by qualified paediatric therapists who:

- Use clinical assessment to personalise therapy plans
- Connect SMARTfit use with achievable NDIS goals
- Integrate therapy into meaningful day-to-day skills
- Track progress with objective data and clinical judgement
- Provide engaging, motivating and developmentally appropriate sessions

Your child receives therapy that is purpose-driven, evidence-informed and focused on real-life impact.

References

Neurotek SMARTfit. (n.d.). *SMARTfit cognitive-motor dual tasking rehabilitation*. https://neurotek.com.au/collections/smartfit-and-accessories

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Aman, J. E., Elangovan, N., Yeh, I. L., & Konczak, J. (2014). The effectiveness of proprioceptive training for improving motor function: a systematic review. *Frontiers in Human Neuroscience, 8*, 1075. https://doi.org/10.3389/fnhum.2014.01075

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