**Supplementary Material**

**Supplementary Table 1: The aLiFE activity framework including strength, neuromotor, and physical activity modules**

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| **Module** | **Activity principles** | **Activities** | **Level 1** | **Level 2** | **Level 3** | **Level 4** | **Everyday tasks for integrating the activity (examples)** |
| **Strength** | * Increase the number of times that you use a muscle. * Move slowly * Use fewer muscles to move the same weight. * Increase the amount of weight you have to lift or move. * *Increase the range of motion* | * Bend your knees: Squatting | * Quarter squat | * Half squat | * *Quarter squat - one legged* | * *Quarter squat - one legged – bending forward* | * Getting things out of low cupboards; getting cloths out of the drawer; watering plants; etc. |
| * *Bend your knees: Lunging* | * *Partial lunge – during standing* | * *Partial lunge – during walking* | * *Full lunge – during standing* | * *Full lunge – during walking* | * Picking things up from the floor; along the hallway; while going for a walk in the park; etc. |
| * Sit-to-stand | * Rising from chair | * Rising from chair - slowly | * *Rising from chair- weight distributed on one leg* | * *Rising from chair- weight distributed on one leg - slowly* | * Changing TV channel; during commercials; every time finishing a book chapter; etc. |
| * On your toes: Walking | * Toe walk 2 meters – hold support*a* | * Toe walk 4 meters – no support*a* | * Toe walk *6 meters* – no support | * Toe walk *8 meters* – no support | * Next to the kitchen bench; hallway; underground parking; garden; walking in the park; etc. |
| * On your toes: Standing | * Toe stand – hold supporta | * Toe stand – no support*a* | * *Toe stand – one leg – hold supporta* | * *Toe stand – one leg- no support* | * Get coat of the coat hook; get clothes out of the wardrobe; get tableware from cupboard; etc. |
| * On your heels: Walking | * Heel walk 2 meters – hold support*a* | * Heel walk 4 meters – no support | * Heel walk *6 meters* – no support | * Heel walk *8 meters* – no support | * Next to the kitchen bench; hallway; underground parking; garden; walking in the park |
| * On your heels: Standing | * Heel stand – hold support*a* | * Heel stand – no support |  |  | * Waiting for the toaster; microwave or PC to start; waiting in a queue; etc. |
| * Up the stairs | * Walking up the stairs | * Walking up the stairs – *carry heavy item* | * *Walking up two stairs at a time* | * *Walking up two stairs at a time – carrying a heavy item* | * Stairs instead of elevator or escalator; modify daily walking routes by including stairs |
| * Move sideways | * Sideward walking with steps shoulder width apart * Move legs sideways in a lying position | * Sideward walking – with steps larger shoulder width apart |  |  | * Along the car in the garage; when going for a walk |
| * Tightening muscles: During lying, sitting | Ankle and knee flexion/extension, Wall sitting. No levels of progression defined | | | | * Watching TV; reading, in the train, in the car |
| **Neuromotor** | * Reducing base of support | * Tandem stand * One-leg stand * Tandem walk | * Hold support*a* | * No support*a* | * *With one additional challengeb* | * *With two additional challengesb* | * Cooking; washing dishes; waiting for the kettle to boil; cleaning teeth; combing hair; shaving; talking on the phone; waiting for the bus; queuing in the supermarket; in the elevator; during gardening; etc. |
| * Shifting weight and moving to the limits of stability | * Leaning forwards, backwards, sideways | * Hold support*a* | * No support*a* | * *With one additional challengeb* | * *With two additional challengesb* |
| * Stepping over objects | * Stepping over objects | * Hold support*a* | * No support*a* | * *With one additional challengeb* | * *With two additional challengesb* |
| * *Stepping, hopping, and jumping in different ways (agility)* | * *Stepping and changing direction* | * *Basic stepping patternc* | * *Intermediate stepping pattern* | * *Advanced stepping pattern* |  | * *Kitchen work; cleaning the apartment such as vacuum cleaning or wiping the floor; etc.* |
| * *Square stepping, hopping, or jumping* | * *Basic stepping patternc* | * *Intermediate stepping pattern* | * *Advanced stepping pattern* | * *Expert stepping pattern (Level 4-6)* | * *Walking in the corridor; in the backyard; walking through a park; going for walk; playing with children; etc.* |
| ***Physical activity*** | * *Walk more* | * *Walk longer* * *Walk faster* | * *No levels of progression defined* | | | | * *Get off/on bus or tram one or more stops before/after your stop; park car further away from destination, etc.* |
| * *Reduce sedentariness* | * *Sit less* * *Break up sitting* | * *No levels of progression defined* | | | | * *Get up and walk a little during TV commercials; stand while reading; keep an empty glass by your computer to remind you to get up when you get thirsty* |

Presented is the aLiFE activity framework including activity modules, activity principles, activities, levels of progression, and example task for integrating activities. Regular style text show elements from the original LiFE programme [[24](#_ENREF_24)]. Italic font show elements which have been added to create the aLiFE programme. aHold support with arm, knee, or any other part of the body; bAdditional challenges are: Manual tasks (e.g. brushing hair, cooking, tooth brushing, etc.), cognitive tasks (e.g. counting tasks, talking over the phone, etc.), sensorimotor tasks (eyes closed, head turn), self-perturbation tasks (e.g. pivot turn, leaning forwards/backwards, crouching, hopping); cThe stepping pattern are illustrated in Supplementary Figures 1 and 2.