

*FREQUENTLY ASKED QUESTIONS ABOUT...***Coordinative Physiotherapy for Patients with Ataxia**

Research has shown that exercise and physical therapy can be effective in helping sustain mobility as the disease of ataxia progresses. Before beginning any exercise program, the National Ataxia Foundation recommends that you speak with your health care professional.

Doris Brötz is a Physiotherapist in Tuebingen, Germany. The focus of her work is the treatment of patients with neurological disorders and spinal disease. From her work emerged the development of a set of therapeutic exercises.

She cooperates with the University of Tuebingen. Especially with Professor. Ludger Schöls and Dr. Matthias Synofzik, MACentre for Neurology Hoppe-Seyler-Str. 3, D-72076 Tübingen and with Prof. Dagmar Timmann-Braun, Neurologische Universitätsklinik, Hufelandstr. 55; D 45122 Essen.

Overview of the program

Patients with ataxia suffer from disturbance of coordination and balance. This leads to exceedingly uncontrolled swaying movements. Patients tend to avoid these uncontrolled movements and, in particular, stop performing those movements that demand high coordinative efforts. Thus, their movement repertoire is increasingly restricted to movements with only poor variation. As a consequence, patients lose coordination skills, reaction ability and gait safety to a larger extent than could be explained by the severity of the disease per se. Our physical therapy approach aims to improve coordination skills, static and dynamic balance control.

General instructions for all exercises in this fact sheet

- The exercises differ in difficulty and risk.
- Some exercises are performed lying on the floor so that the patients do not run the risk of falling.
- The physical therapist should assist you in those exercises that you cannot perform yourself without risking injuries or falls.

- All exercises should be done without holding anywhere.
- Feel free to perform the safe exercises on a regular basis at home, but omit those exercises which you cannot perform without aid.

Treatment strategy

As a key element of the treatment strategy, you should stop making yourself stiff. If you start to sway more after the first exercises, an intermediate goal has been achieved. It will allow you to perform more accurate movements and, once you lose balance, to react more flexibly. After some training you gain more control over your movements. This program strengthens you in repeating the daily life oriented coordination exercises. This means that you do not need additional strengthening exercises.

Changing your movement behavior

- Move in a smooth and fluid manner as it is possible
- Change your movement behavior
- Adopt the new learned skills in daily life
- Motto 1: "Move"
- Motto 2: "Bend Knees"

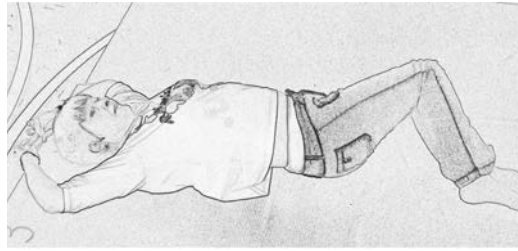
Goal setting

- The first step to success is a goal! Define one to three realistic goals you want to achieve in the next four weeks.
- Which daily life activity do you want to control better? How do you perform this activity at the moment?
- Write your answers down.
- Compose your exercise plan with seven to 13 exercises.
- Note your progress.

Coordination and mobility of spine and shoulders

Rotation in lying

Lie down on your back
Bend your knees and put your feet on the mat
Spread your arms
Tilt both knees to one side
Move knees back up
Repeat the same procedure to the other side
Repeat 10 times to each side



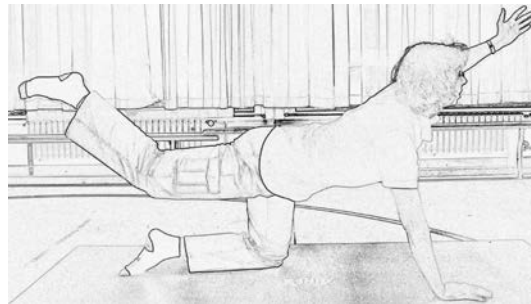
Rolling on a mat or in bed

Lie down on your back
Lift the arm in the direction you want to roll
Push the other arm over your body and lift the leg, so that you come to lay on your side
Roll back
Repeat 10 times to each side
Variation: roll from your back - to side - to stomach - to side - to back in a continuing manner



Quadruped Position

Bring your left elbow and right knee together below your body
Straighten your left arm and right leg and elevate them far up
Repeat 5 times balancing on the left leg and the right arm
Repeat with the other leg and arm



Coordination and balance

Shifting your weight to the side

Sit upright
Shift your weight to the right
Sit back up
Repeat 5 times
Shift your weight to the left
Sit back up
Repeat 5 times



Increase of Difficulty:

1. Put one foot on the bed and back on the ground
2. Put both feet on the bed over the side



Standing up and Sitting down

Bend your spine a bit
Shift your weight onto the feet
Move in an upright position
Keep the back and knees slightly bended
Sit down controlled
Repeat 10 times



Kneeling Position 2

Move into a kneeling position
Move one leg forward without touching the ground with your toes
Move back into kneeling position
Repeat with the other leg
Repeat 5 times each



Standing Up from the Ground Using Bear Stand

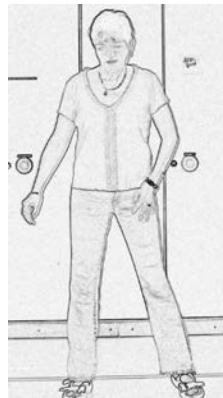
Stand – bend knees and spine
Touch the floor
You will be in quadruped position
Stand on your feet with your hands still on the ground
Straighten your knees, but keep them slightly bent; the pressure remains mostly on the forefoot
Lift your hands off the ground, stand up, and orientate your weight forwards; keep your knees slightly bent



Dynamic Balance Training / Safety Steps

Side Steps

Stand upright with your feet hip-width apart
Take a big step to the side
Go back to the original position
Repeat 20 times with each leg



Steps forwards

Stand upright with your feet hip-width apart
Take a big step forwards
Go back to the original position
Repeat 20 times with each leg



Steps backwards

Stand upright with your feet hip-width apart
Take a big step backwards
Go back to the original position
Repeat 20 times with each leg

Cross-Step front

Stand upright with your feet hip-width apart
 Cross your legs in the front
 Go back to the original position
 Repeat 20 times with each leg



Training of Hand-Arm Coordination

Exercises with increasing difficulty

Pile building blocks
 Pile little toy bricks
 Turn around playing cards
 Collect items in a small jar (marbles, paper clips)
 Write half page every day



Throwing and Catching a Ball

Throw the ball up in the air with your right hand and catch it with your right hand
 Do the same with your left hand
 Throw as far up as your eye height
 Catch at the height of your waist
 Throw a ball from the right hand to the left and back



Forearm Rotation

Pour water from one cup in another 20 times

Drinking

Keep calm
 Move one hand to your chin – and back to the table - repeat 10 times
 Pour water into a big cup
 Take the cup and move it to your chin and back to the table – 10 repetitions
 Drink two mouthfuls – put the cup back on the table
 Do 7 repetitions
 Motto: *Shoulder Relaxed*



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