

## FREQUENTLY ASKED QUESTIONS ABOUT...

# Coordinative Physiotherapy for Patients with Ataxia

Research has shown that exercise and physical therapy can be effective in helping sustain movement control in patients with Ataxia as the disease progresses.

Doris Brötz is a Physiotherapist in Tuebingen, Germany. The focus of her work is the treatment of patients with neurological disorders and back pain. From her work emerged the development of the principle of coordinative physiotherapy. Here she composed a set of therapeutic exercises. Please find more information, exercises and pictures in „Übungen in der Neurorehabilitation“ Thieme Stuttgart.

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### 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. This 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
- Tolerate shaking
- Adopt the newly 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 position

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



### Rolling on a mat or in bed

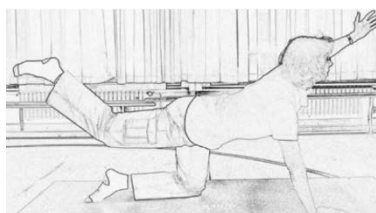
- Lie down on your back
- Lift the arm corresponding to the direction in which you want to roll
- Push the other arm over your body and lift the leg, so that you come to lay on your side
- Roll back
- Repeat 10 times to each side



*Variation: roll from your back – to side – to stomach – to side – to back in a continuing manner*

### Quadruped Position

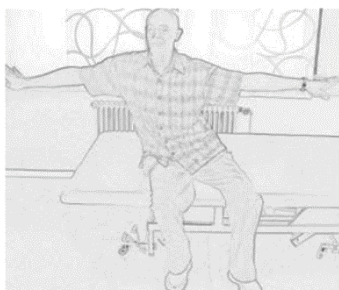
- Start in quadruped position
- Bring your left elbow and right knee together below your body
- Straighten your left arm and right leg and elevate them far up
- Repeat 5 times balancing on the left leg and the right arm
- Repeat with the other leg and arm



## 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. At the end of each repetition, put one foot on the bed and back on the ground
2. At the end of each repetition, put both feet on the bed and back on the ground

## Standing up and Sitting down

- Sit down
- Shift your weight onto the feet
- Move into an upright position
- To sit back down, keep the back and knees slightly bent
- Sit down with a controlled movement
- Repeat 10 times



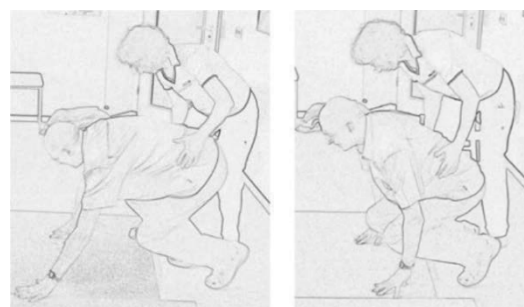
## Kneeling Position

- 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*

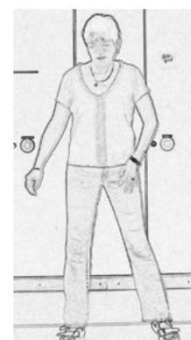
- Stand
- Bend your knees and spine until you touch the floor
- You will be in quadruped position
- Stand on your feet with your hands still on the ground
- Straighten your knees, but keep them slightly bent; the pressure remains mostly on the forefoot
- Lift your hands off the ground, stand up, and 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 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 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 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 one leg in front of the other one
- 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 over playing cards
- Collect items in a small jar (marbles, paper clips)
- Write half a page every day

### Throwing and Catching a Ball

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

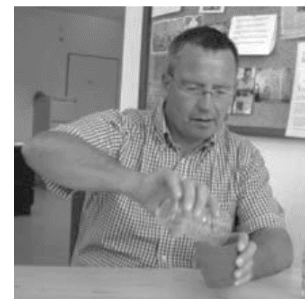


### Forearm Rotation

- Pour water from one cup into another 20 times

### Drinking

- Keep calm
- Move one hand to your chin
- Move your hand back to the table
- Repeat 10 times
- Pour water into a big cup
- Take the cup and move it to your chin
- Move the cup back to the table
- Repeat 10 times
- Drink two mouthfuls
- Put the cup back on the table
- Do 7 repetitions



*Motto: Shoulder Relaxed*

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