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# Fatigue Management for Living with Multiple Sclerosis

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1

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## Objectives

Define fatigue and fatigability  
Primary and Secondary Effects  
Strategies for Fatigue Management

2

# Fatigue

One of most common symptoms for PwMS

- Can be reported in up to 80% of individuals

Can have a significant impact on function

Most described symptoms as most limiting in PwMS

Subjective report of feeling “tired”

Tends to be generalized

- Whole body or global

Various Measurements in therapy

- Visual Analog Scale, Modified Fatigue Impact Scale, Fatigue Scale for Motor and Cognitive Functions



3



4

# Fatigability

Objective measure of how quickly someone gets tired

Worsening of motor performance over time or with repetition

Can be part of a specific motion or task or body part

- Foot drop that develops with walking
- Reduced ability to raise arm after lifting it several times

Can be tested in physical therapy (or other disciplines)

- Six Minute Walk Test, 5 Times Sit to Stand

5

# Primary Effects

Directly related to disease process

- Lesions or disease load

Demyelination and inflammation

Decreased nerve conduction due to demyelination

- Speed of nerve conduction

With repetition reduced motor output resulting in foot drop while walking

Increased tiredness related to heat exposure

6

## Secondary Effects

Adaptions to lifestyle due to disease progress

- Walking less due to weakness

Sedentary lifestyle

- Sitting more due to balance deficits

Learned behaviors

- Easier to ask for help than to do it yourself
- Can be related to adaptations

Mental health

- Depression, anxiety
- Depression can lead to fatigue or fatigue can lead to depression

7

## Cycle of Fatigue

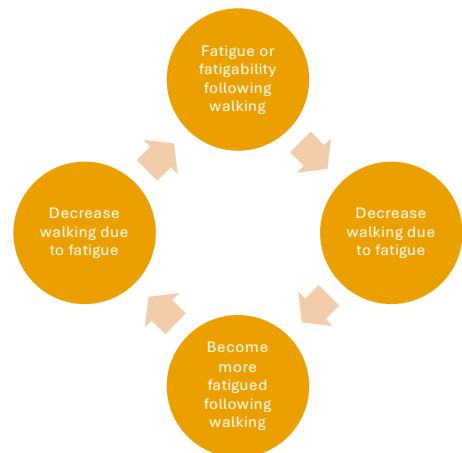
Fatigue can lead to a decrease of an activity

Activity is performed less which can lead to disuse and weakness

- Person becomes more sedentary

Due to disuse weakness, activity becomes more difficult and person develops more fatigue or fatigability

Person performs activity less and becomes more sedentary



8

# Heat Exposure

Related to reduce nerve conduction with heat exposure

Typically transient

- Will subside with rest

Use of cooling devices or air conditioned rooms

- Has demonstrated improved outcomes with walking
- Aides with reducing fatigue and fatigability



9

# Fatigue Management Techniques

Exercise can directly help with fatigue management

- Interval training
  - Performing same activity with rest (walking or recumbent bike)
  - Rest breaks to prevent fatigue
- Circuit training
  - Performing various activities to allow for rest from one
  - Sit to stands > core > balance. REPEAT
- Improve motor performance, strength, balance, endurance
- Combats disuse effects or sedentary behaviors
- Can assist with symptoms related to depression
  - Release of neurotransmitters

10

# Fatigue Management Techniques

## Monitoring Fatigue

- Monitoring fatigue and activities that create fatigue
- Can also monitor daily fatigue t/o day
- Develop plan to modify activities
  - Doing laundry all at once vs break up throughout day or week
  - Performing all grocery shopping at once vs multiple trips throughout week
  - Performing activities in AM vs PM

11

### DAILY ACTIVITIES DIARY

Date: \_\_\_\_\_

#### Instructions:

- At the top of the day's diary, describe how you slept the night before.
  - Assign a number from 1 to 10 (1 being very low and 10 being very high) for:
    - Your level of **FATIGUE (F)**.
    - The **VALUE (V)** or importance of the activity you are doing.
      - You can compute the "value of an activity by comparing it to other activities you would like to do during the course of the day.
    - The **SATISFACTION (S)** you feel with your performance of the activity.
- For example: **F = 7 V = 3 S = 2 Activity:** Fixing lunch standing 15min (hot)
- 1:00PM Comment:** Blurred vision
- Always describe the physical work done in the Activity column (e.g., stood to shower 10 minutes, went up 20 stairs, walked 200ft, etc).
  - Note the external temperature of the environment under Activity or Comments.
  - List under Comments all MS symptoms as they appear or worsen during the day, including cognitive problems, visual problems, weakness, dizziness, foot drag, pain, numbness, burning, etc.
  - Make notes every hour**—not at the end of the day.

Describe your sleep last night:

| Time | F | V | S | Activity | Comments |
|------|---|---|---|----------|----------|
| 6AM  |   |   |   |          |          |
| 7AM  |   |   |   |          |          |
| 8AM  |   |   |   |          |          |
| 9AM  |   |   |   |          |          |
| 10AM |   |   |   |          |          |
| 11AM |   |   |   |          |          |
| 12PM |   |   |   |          |          |
| 1PM  |   |   |   |          |          |
| 2PM  |   |   |   |          |          |
| 3PM  |   |   |   |          |          |
| 4PM  |   |   |   |          |          |
| 5PM  |   |   |   |          |          |
| 6PM  |   |   |   |          |          |
| 7PM  |   |   |   |          |          |
| 8PM  |   |   |   |          |          |
| 9PM  |   |   |   |          |          |
| 10PM |   |   |   |          |          |
| 11PM |   |   |   |          |          |
| 12AM |   |   |   |          |          |

12

# Fatigue Management Techniques

## Adaptive equipment

- Use of foot drop devices (Saebo Step, AFO)
- Use of wheelchairs or walking aides (walking poles, canes, walkers)
- Use of ADL equipment
  - Shower chair
  - Reachers
  - Bedcanes
  - Stair lift



13

## Takeaways

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Fatigue is subjective and multifactorial

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Fatigue is different than fatigability

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Fatigue can be directly related to disease process or can be related to disuse or sedentary causes

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Exercise can help with fatigue

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Can monitor activities and fatigue and develop plan to modify activities

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Can use adaptive strategies or equipment to reduce fatigue

14

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# Questions?

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