



**National
Multiple Sclerosis
Society**

Managing Cognitive Symptoms and Fatigue in the Workplace

Cynthia L. Sullivan, Ph.D.
Neuropsychology Associates
of Fairfax
Georgetown University
Medical Center

Tracy Carrasco, OT/L, MSCS
Orlando Health Multiple Sclerosis
Comprehensive Care Center



**National
Multiple Sclerosis
Society**

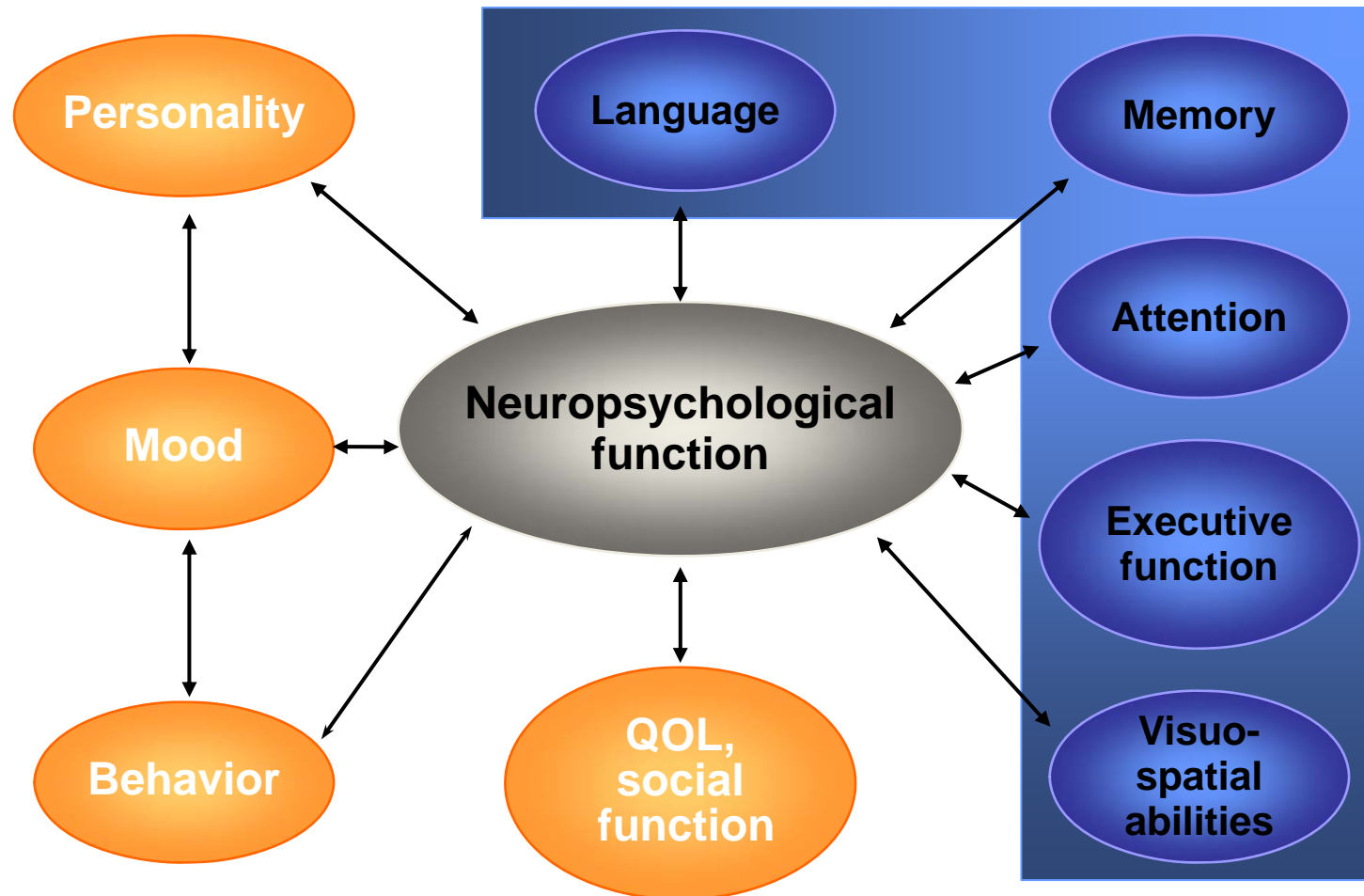
Managing Cognitive Symptoms in the Workplace

Cynthia L. Sullivan, Ph.D.

Neuropsychology

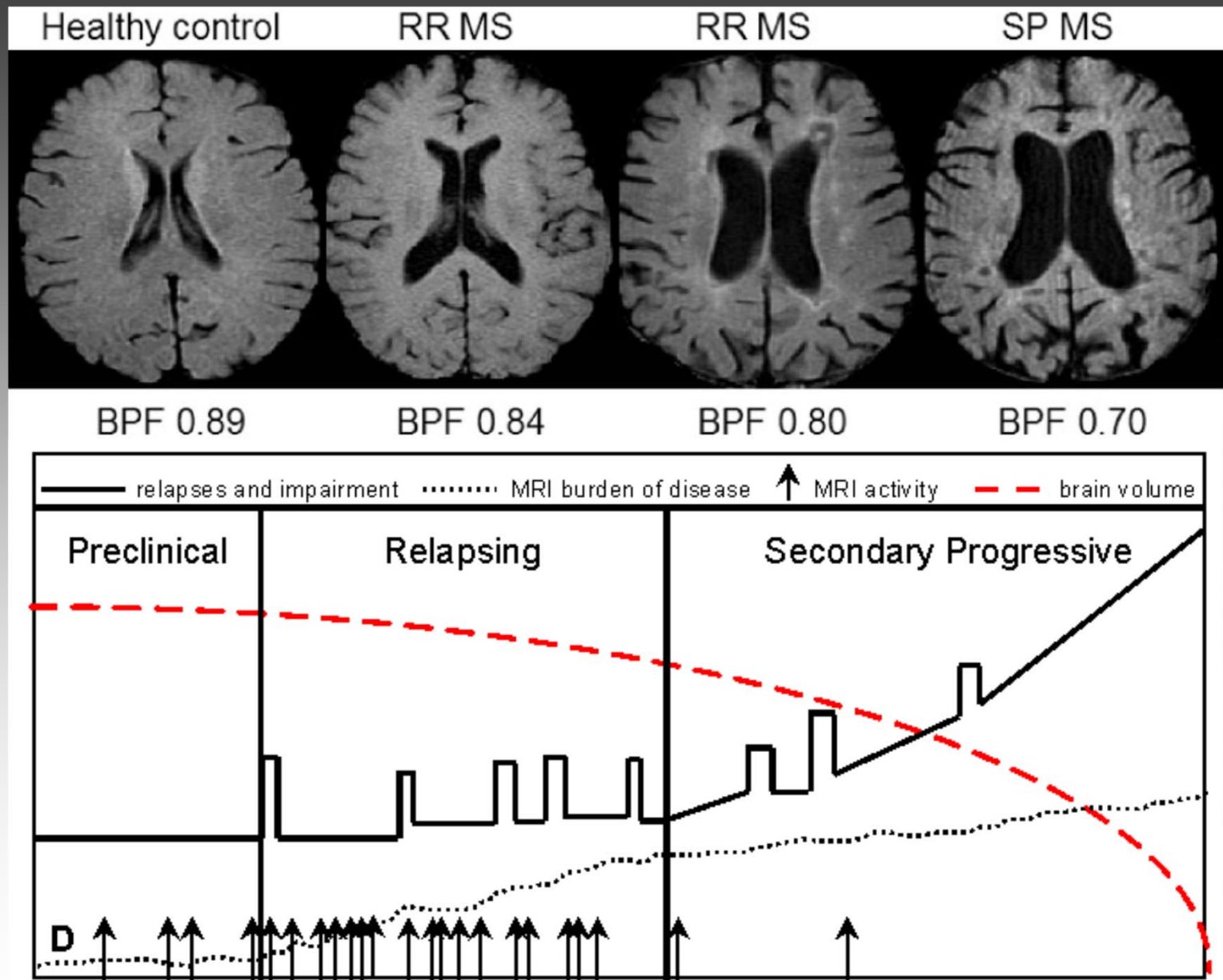
The study of *brain-behavior* relationships.

Spectrum of Neuropsychology



QOL=quality of life.

Data on file, with permission from Munschauer F.



MRI images from Bakshi R et al. *NeuroRx*. 2005;2:277-303.

Figure from Fox RJ, Cohen RA. *Cleve Clin J Med*. 2001;68:157-171.

Cognitive Dysfunction in MS

- Occurs in 43%–65% of patients with MS¹
- Contributes significantly to unemployment, accidents, impairment of daily function, and loss of social contacts²
- Pattern and degree of involvement is variable¹

1. Rao SM et al. *Neurology*. 1991;41:685-691; 2. Rao SM et al. *Curr Opin Neurol*. 1995;8:216-220.



Neuropsychological Dysfunction in MS

Associated with:

- Increased unemployment (16% vs 44%)
- Decreased ADLs
- Decreased socialization
- Psychopathology

Rao Neurology 41:692: 1991



The Impact of Cognitive Dysfunction On Daily Living

“Limitations in a patient’s work and social activities are correlated with the extent of cognitive decline, independent of degree of physical disability.”

Amato et al. *Arch Neurol.* 2001;58:1602.

Neuropsychological Dysfunction in MS

COGNITIVE domains regularly affected:

- Attention
- Learning and Retrieval (Memory)
- Information processing speed
- Visuospatial perception
- Executive Function

COGNITIVE domains usually spared:

- Language/Verbal Skills



Components of Memory

ENCODING

(getting the information in)

CONSOLIDATION

(transferring the information into long-term store)

RETRIEVAL

(getting the information out)

Free Recall vs. **Recognition Memory**



Ways in Which Cognitive Problems Can Present Themselves in the Work Environment

- ◆ You have trouble keeping up with information that's being presented to you (in conversations, in meetings, in presentations, etc.).
- ◆ You have trouble recalling information (e.g., things people have told you, things you need to get done, information you've read, etc.).
- ◆ You have trouble remembering people's names.
- ◆ You can't remember where you've put things.
- ◆ You have trouble maintaining your concentration (i.e., your mind wanders).

Ways in Which Cognitive Problems Can Present Themselves in the Work Environment

- ◆ You're easily distracted.
- ◆ You often lose your train of thought.
- ◆ You can't multi-task as well as you used to.
- ◆ When you're interrupted, you have trouble getting back to what you were doing.
- ◆ You have trouble pulling up words when talking or writing.
- ◆ You get stuck in your thinking and can't "think outside the box".

Things that make cognitive functioning even worse

Stress

Anxiety

Depression

Fatigue

Sedating medications

Pain

Alcohol/Drug abuse



How to Minimize Cognitive Decline

Eat right

Exercise

Minimize stress



Get enough sleep

Stay mentally and socially active

Avoid substance abuse



Symptomatic Treatment of Cognitive Dysfunction in MS

Available therapies

- Psychostimulants, Provigil
- Acetylcholinesterase inhibitors
- Antidepressants
- Herbal Remedies



With permission from S.M. Rao.

Cognitive Rehabilitation

- Direct training in compensatory strategies (neuropsychological treatment) associated with improved visuospatial memory, decreased depression (Jonsson et al., 1993)
- Training in attention associated with improved attention performance for at least 9 weeks (Plohmann et al, 1997)
- Neuropsychological training (education, social skills training, behavioral modification) showed improvement of social behavior (e.g., egocentric speech) (Benedict et al., 2000)
- Cognitive therapy led to improved verbal learning, verbal abstraction, and depression (Rodger et al., 1996)



How to Compensate for Cognitive Decline

Write things down

Repeatedly review information that you're trying to learn/remember

Use electronic reminders/alarms, organizational systems, pillboxes, etc.

Focus on one thing at a time

Take brief breaks as needed



How to Compensate for Cognitive Decline

Allow enough time for tasks

Ask others to slow down when presenting information to you

Ask for information in writing



To Tell or Not to Tell

- PRO

- Can work toward obtaining reasonable accommodations (e.g., extra time for tasks, access to a distraction-free work space, designated periods of uninterrupted time to work, flexible hours, permission to work from home, etc.).

- CON

- You'll have to share information about your diagnosis and related cognitive difficulties.

Conclusions

- ◆ MS causes cognitive problems in 45-65% of MS patients. These cognitive problems can adversely affect performance on the job.
- ◆ Physical exercise, social activity, and mental stimulation can help maximize cognitive functioning and reduce the risk of abnormal cognitive decline



Conclusions

- Certain disease-modifying medications can help treat cognitive difficulties.
- Symptomatic treatments can also be helpful.

Conclusions

- ◆ Cognitive rehabilitation programs might be helpful in maintaining or improving cognitive functioning.
- ◆ Compensatory strategies can help improve work performance and maintain employment.
- ◆ If cognitive problems persist, you are entitled to reasonable accommodations within your place of employment (per the ADA).



**National
Multiple Sclerosis
Society**



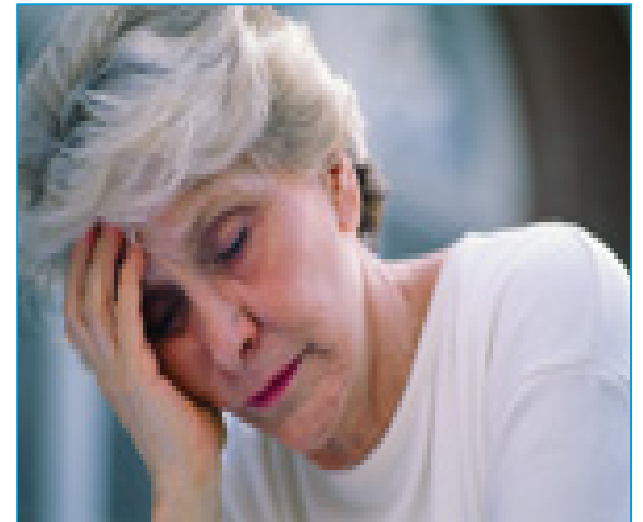
Managing Fatigue in the Work Place

Tracy Carrasco, OT/L, MSCS

What is Fatigue?

A subjective lack of physical and/or mental energy that is perceived by the individual or caregiver to interfere with usual and desired activities.*

*MS Council for Clinical Practice Guidelines.
Fatigue in Multiple Sclerosis, 1998.



Fatigue in Multiple Sclerosis

- Reported by up to 90% of individuals with MS
- >50% report that it is their most disabling symptom
- Correlations with between depression and cognitive function
- Referred to as an invisible symptom
- Most common cause of disability

Types of Fatigue in Multiple Sclerosis

- **Primary MS Fatigue** – referred to as *MS lassitude*
 - Probably due to impaired conduction of nerve impulse
- **Secondary Sources of Fatigue**
 - Sleep disturbances (deprivation, insomnia)
 - Spasticity (spasms, restless leg syndrome)
 - Medication side effects
 - De-conditioning
 - Extra exertion required for daily activities
 - Urinary problems (frequency)
 - Obesity
 - Depression
 - Noxious stimuli
 - Temperature sensitivity

Pharmacological Management of MS Fatigue

- Amantadine 100 mg daily to TID
- Modafinil 100 mg to 200 mg BID
- Armodafinil 150 mg to 250 mg daily
- Methylphenidate 5 mg to 20 mg daily
- Dexamphetamine 10 mg to 50 mg daily
- Fluoxetine 10 mg to 40 mg daily
- Bupropion 100 mg to 450 mg daily



Assessing Your Fatigue

- What does a typical day at work look like?
- Track your activity using a daily log.
- Identify times during your day or habits that have become problematic.
- Plan a day in advance. Did your plans change? Why?
- Are there certain days of the week that are more fatiguing?
- What are your most energy consuming activities?
- What time of day are you most fatigued?



DAY PLANNER

Date:

Priority	Activity	Completed (V)
	1	
	2	
	3	
	4	
	5	
	6	
	7	
	8	
	9	
	10	
	11	
	12	
	13	
	14	
	15	
	16	
	17	
	18	
	19	
	20	
	21	
	22	
	23	

The Five Principles of Time Management

1. Create a daily list of tasks.
2. Give each task a priority A, B, C.
3. Ensure that you work on "A" tasks first.
4. Make the best use of your time.
5. Don't postpone anything - Do it now!

Understanding Your Fatigue

- How do I feel when I am fatigued?
- Write down what your fatigue feels like and give it a rating to help you better understand.
- What precipitates your fatigue?
- What helps to relieve your fatigue?
- Are there other symptoms that occur when you are fatigued?
- How long does your fatigue last?



Date: _____

Daily Energy Tracker

Print several copies of this tracker and fill out one at the end of each day. This can help you identify what may be causing or worsening fatigue. You may notice what adjustments you can make to your schedule and habits after a few weeks of completing the tracker. It may also be helpful to show your logs to your doctor, who may be able to identify patterns and recommend changes.

My Energy Level Today



I Had the Most Energy ...



MS Symptoms I Experienced Today:

My Pain Level Today



My Symptoms Were the Worst ...



Non-MS Symptoms I Experienced Today:

Last Night I Slept ...



My Stress Level Today



My Activity Level Today



I Was Most Active ...



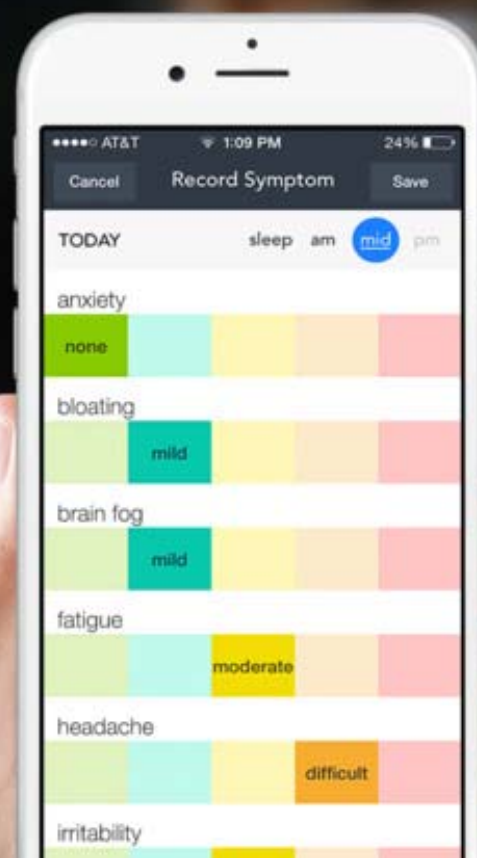
What I Ate Today



Changes I Will Try to Make Tomorrow:

Super simple

Record how you feel,
once a day or throughout
the day.



What needs to change?

1. Do you need to change yourself?
2. Do you need to change how the activities are done?
3. Do you need to change the environmental layout or where the activity takes place?



Changing Yourself

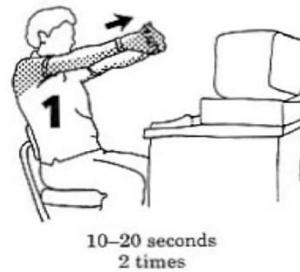
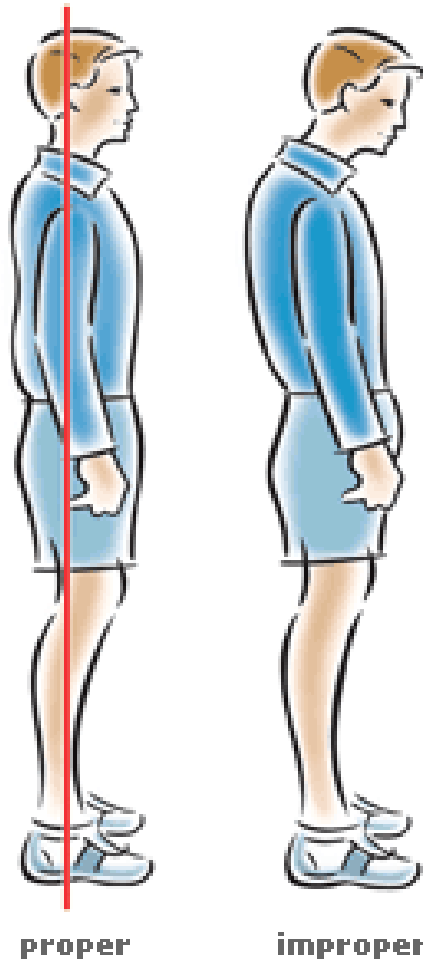
- Light to moderate exercise
- Good nutrition
- Sleep habits
- Stress management
- Improve your breathing
- Rest breaks (Visual breaks, too)
- Delegate tasks to others
- Good sitting and standing posture
- Stretch breaks
- Spasticity management



Computer & Desk Stretches

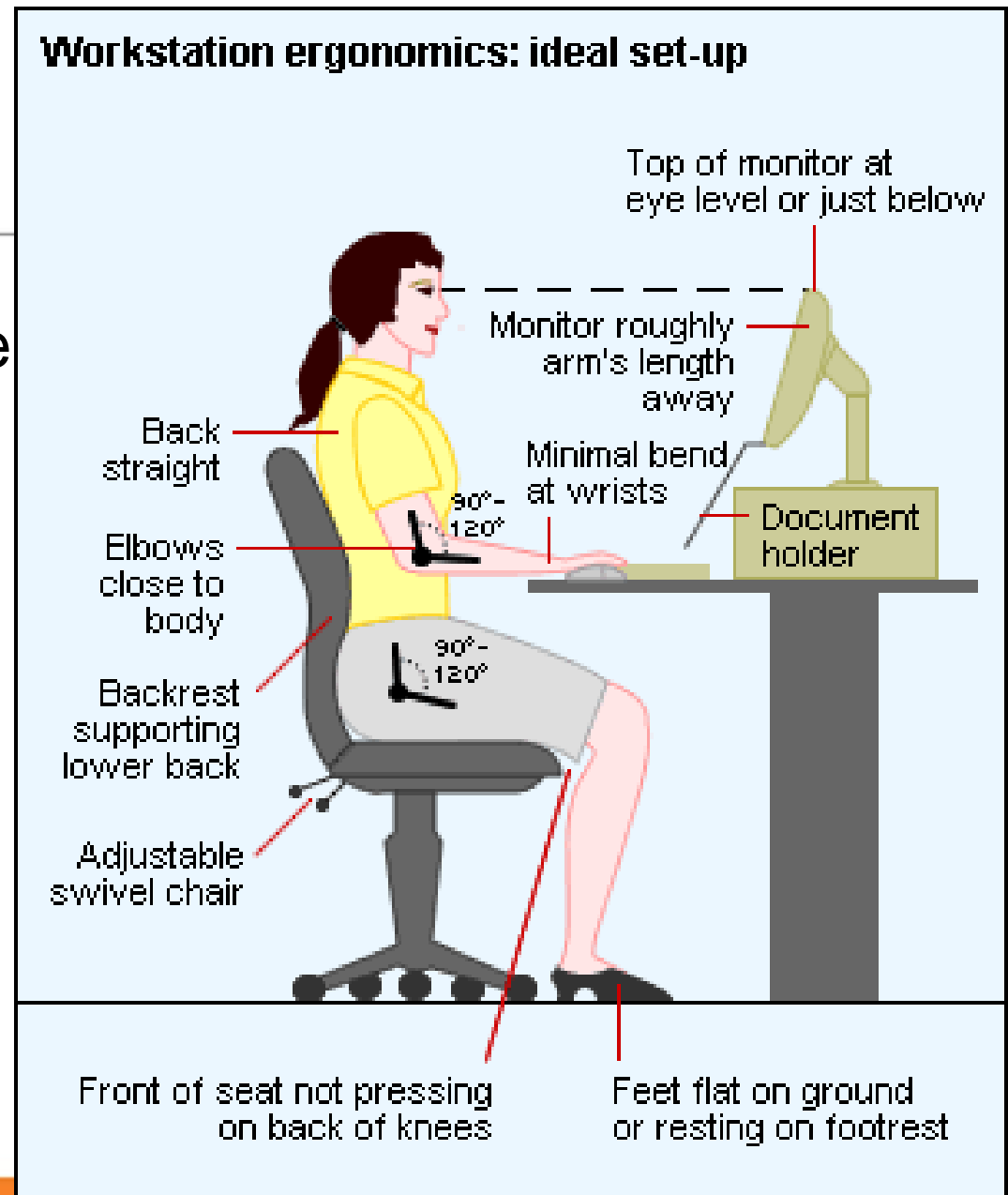
Approximately 4 Minutes

Sitting at a computer for long periods often causes neck and shoulder stiffness and occasionally lower back pain. Do these stretches every hour or so throughout the day, or whenever you feel stiff. Photocopy this and keep it in a drawer. Also, be sure to get up and walk around the office whenever you think of it. You'll feel better!



Proper Sitting Posture

- Remember to change your position throughout your day
- Ask for an ergonomic evaluation
- Change your visual gaze to focus 20 ft away x20 seconds every 20 minutes



Tips to Improve Your Sleep

- Make a fixed bedtime and wake up time
- Make your bedroom a comfortable temperature
- Dim the lighting and decrease the noise one hour prior to bedtime
- Follow a routine when getting ready for bed
- Make sure your bedding is comfortable
- No TV or electronics once you are in bed



Changing How Things are Done

- Prioritize
- Plan ahead (work and home)
- Use good body mechanics
- Work at a moderate pace (avoid rushing)
- Alternate easy and difficult tasks
- Perform activities in sitting if possible (you can save 25% more energy just by sitting!)
- Slide objects instead of lifting or carrying them
- Use of appropriate mobility or assistive devices

Analyze Your Task

- Why is the task necessary?
- Where is the best place to do it?
- What is the best time to do it?
- How should it be done?
- Are there steps that can be eliminated?
- Can someone else do it?
- Ask co-workers details about how they complete the same task.



Changing Your Environment

- Proper seating
- Rearrange your work areas to make frequently used items easily accessible
- Organize your space
- De-stress your work area (calm colors, less clutter, less noise)
- Use task appropriate lighting
- Avoid harmful fumes or smoke
- Manage your temperature

Heat Management Strategies

- Keep environment cool, especially during exercise(62–66 degrees F; 16–18 C)
- Exercise in cool pool (< 85 degrees F; <29 C)
- Avoid hot baths/showers
- Hydrate with cool liquids/frozen drinks
- Use cooling packs/scarves
- Use cooling vest/garment
- Wear light-weight, loose-fitting clothing
- Pre-cool your body



Other Changes to Consider

- Use a glare free monitor and ergonomic keyboard
- Assistive technology (voice recognition, enlarged text, turn voice mails into text)
- Park closer to work entrance
- Consider working from home part of your day
- Telecommute



Questions & Answers

Text your questions in the chat box at the bottom left
hand side of your screen

OR

the operator will assist you with asking your questions