



Managing Fatigue after Traumatic Brain Injury (TBI)



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Overview

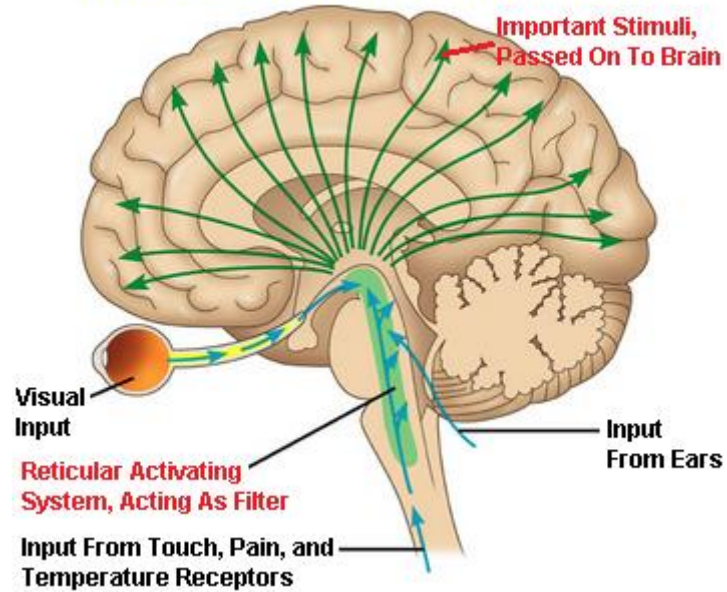
- ▶ **Causes of fatigue following TBI**
 - ▶ Biological
 - ▶ Lifestyle Adjustments

- ▶ **Methods of Managing Fatigue**
 - ▶ Nutrition
 - ▶ Managing Cognitive Fatigue
 - ▶ Managing Physical Fatigue & Pain via Pacing



Causes of Fatigue

The Reticular Activating System



Causes of Fatigue

The "Cycle of Deconditioning"



Managing Fatigue (Nutrition)

- ▶ Particularly after brain injury, people can become more sensitive to the impact of nutrition on their energy levels
 - ▶ Highly linked to deconditioning
- ▶ No such thing as “perfect” diet plan, but research suggests that hydration, lean proteins, and complex carbohydrates are important.
- ▶ Want to limit sugary foods, highly processed carbs (white bread and rice), and energy drinks



Managing Fatigue (Nutrition)

Glycemic Index

Low GI (<55), Medium GI (56-69) and High GI (70>)

Grains / Starches		Vegetables		Fruits		Dairy		Proteins	
Rice Bran	27	Asparagus	15	Grapefruit	25	Low-Fat Yogurt	14	Peanuts	21
Bran Cereal	42	Broccoli	15	Apple	38	Plain Yogurt	14	Beans, Dried	40
Spaghetti	42	Celery	15	Peach	42	Whole Milk	27	Lentils	41
Corn, sweet	54	Cucumber	15	Orange	44	Soy Milk	30	Kidney Beans	41
Wild Rice	57	Lettuce	15	Grape	46	Fat-Free Milk	32	Split Peas	45
Sweet Potatoes	61	Peppers	15	Banana	54	Skim Milk	32	Lima Beans	46
White Rice	64	Spinach	15	Mango	56	Chocolate Milk	35	Chickpeas	47
Cous Cous	65	Tomatoes	15	Pineapple	66	Fruit Yogurt	36	Pinto Beans	55
Whole Wheat Bread	71	Chickpeas	33	Watermelon	72	Ice Cream	61	Black-Eyed Beans	59
Muesli	80	Cooked Carrots	39						
Baked Potatoes	85								
Oatmeal	87								
Taco Shells	97								
White Bread	100								
Bagel, White	103								



Methods of Managing Fatigue (Cognitive)

- ▶ After a brain injury, it is common for the brain to have to work harder in order to process what were once simpler tasks.
 - ▶ Research shows that compared to controls, individuals with TBI show more activation when working on similar tasks
- ▶ Types of difficulties vary depending on extent of damage and region of brain impacted (see page 4)
- ▶ Treatment is to create new cognitive strategies to create “short cuts” and develop new automatic habits



Methods of Managing Fatigue (Cognitive)

Forgetfulness can waste a lot of energy...

- Spending time looking for keys
- Stress of leaving important items at home when at work

A very effective way of reducing this is by incorporating new habits into an existing behavior

- When we try to learn something new, we use a lot of brain power but the more automatic something becomes, the less energy is used.
- Example: learning to drive a stick shift!



Methods of Managing Fatigue (Cognitive)



Situation: You keep forgetting your wallet



What is your general routine in the morning?



What are automatic places you go to or see every morning?




Methods of Managing Fatigue (Physical)

After recovering from a TBI or any injury, it is common to want to “get back to normal” and jump right back into old routines.

- This can be hard due to several reasons such as deconditioning, disability after injury, stress, anxiety, and depression.

Most important thing to consider first is to listen to your body. Important to...

- Know when you need a break
 - Know how much can you do at one time
 - To prioritize activities that matter most
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Methods of Managing Fatigue (Physical)

	Immediate/Deadline	Not Immediate/No Deadline
Important	Large Rocks/Pebbles <ul style="list-style-type: none">• Emergencies• Important appointments	Large Rocks/Pebbles <ul style="list-style-type: none">• Health & Exercise• Important relationships• Planning self-care
Not As Important	Sand: Interruptions <ul style="list-style-type: none">• Phone is ringing• Someone at door• Watching TV shows	Water <ul style="list-style-type: none">• Various chores• Responding to mail• Unimportant messages



Methods of Managing Fatigue (Physical)



Stress and anxiety can deplete energy fast! If symptoms like this persist for long periods, it is important to seek medical and psychological help.



However, during periods of acute worry and anxiety, it is vital to be able to calm oneself and have the right tools to do so. This can be done via diaphragmatic breathing.

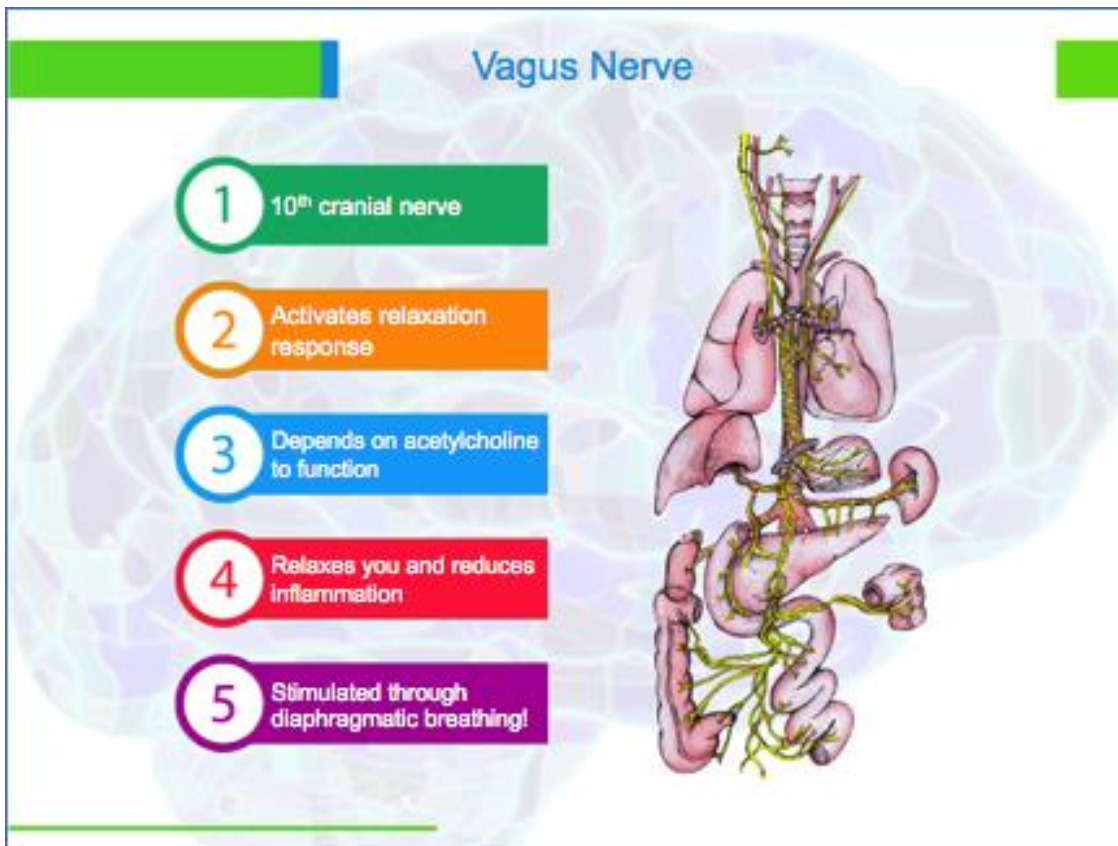


Methods of Managing Fatigue (Physical)

Diaphragmatic (belly) breathing is an effective way to “trick” your body into activating the parasympathetic nervous system.

When anxious, the sympathetic nervous system (i.e., fight or flight) is red hot.

Both the sympathetic and parasympathetic cannot be “on” at the same time.

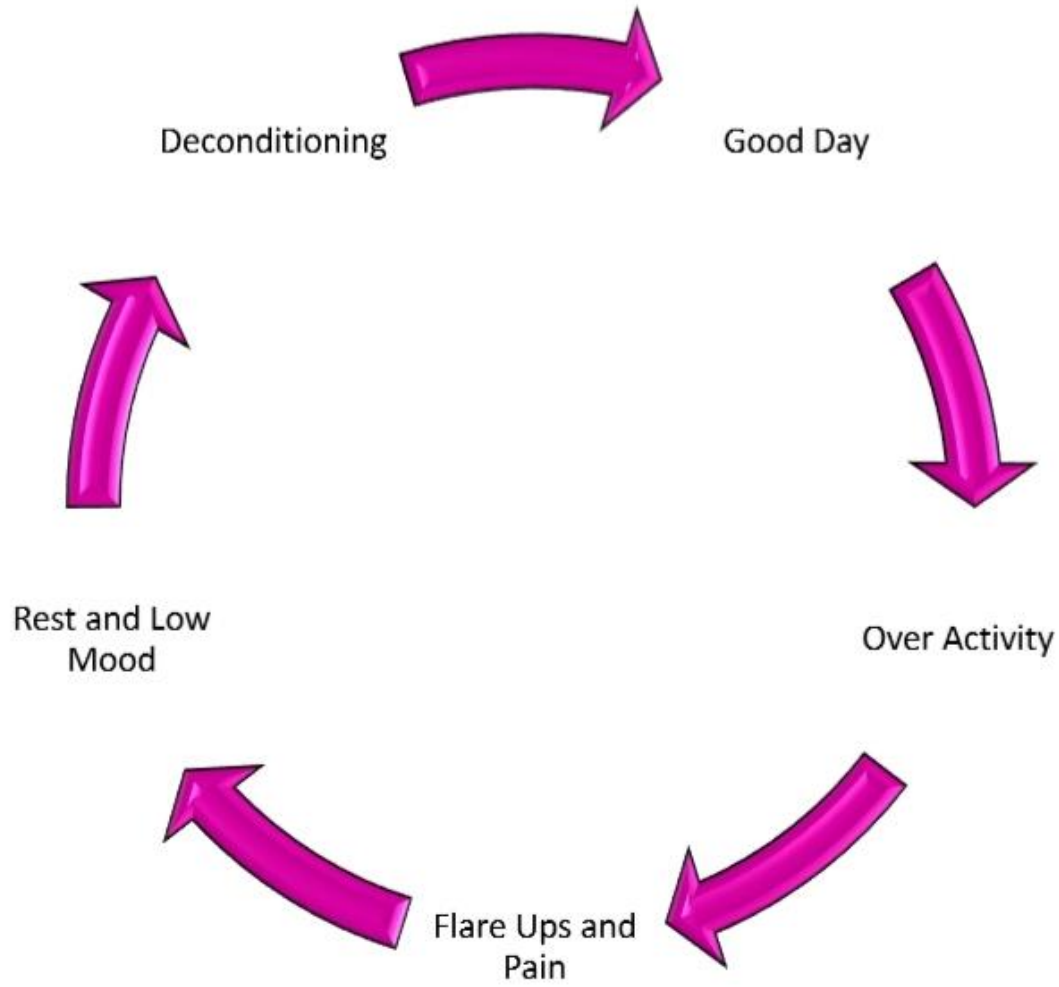


Pacing

- ▶ As one recovers from TBI and other physical injuries, it is common to “overdo it” when trying to resume normal activities.
 - ▶ Where before you could mow the entire lawn in one afternoon without any problems, now doing it for more than 30 minutes causes a lot of pain and fatigue.
- ▶ Resuming normal routines after an injury and a period of deconditioning can exacerbate fatigue and increase the feeling of disability.
 - ▶ Especially after doing too much on a “good day”



Pacing



Pacing

- ▶ The key to engaging in activities (both enjoyable but also needed chores) without becoming overly fatigued is through pacing.
- ▶ Using the 75% rule, you carry out an activity that you did before the TBI, but only for 75% of the time.
 - ▶ Before TBI, if you would mow the lawn for 30 minutes, give yourself a new time of only doing so for only 22 minutes.
 - ▶ Then rest 5-15 minutes before re-engaging in again for that allotted time.

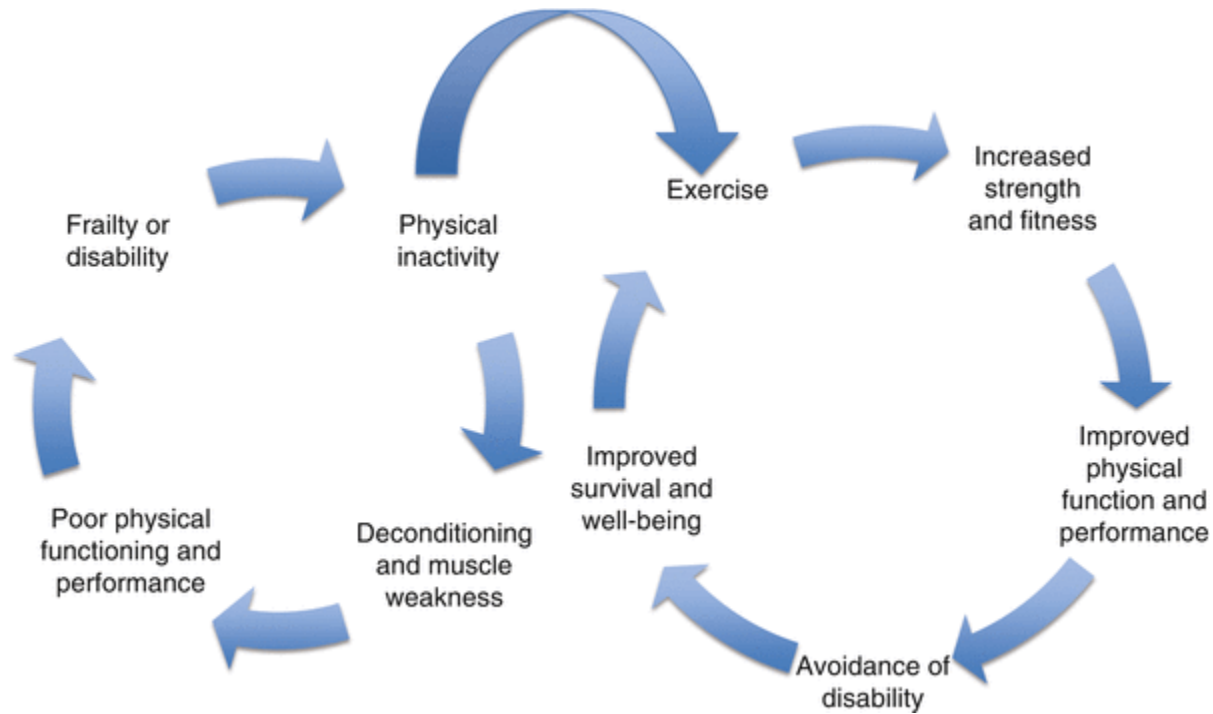


Pacing

- ▶ Keep a log of your activity and level of fatigue each day to track the connection between how much you exerted yourself and how you feel.
- ▶ Once you have established a good baseline in which you can engage in activities without feeling overly exhausted that night or next morning, you can start to increase how much you do by 10% at a time.
- ▶ Overtime, you build strength and endurance
 - ▶ Similar to how a marathon runner doesn't go out and run 26 miles without training



Pacing



Dealing with Stumbling Blocks

- ▶ Taking on too much
 - ▶ Important to know limits and not feel bad that you let yourself or others down.
- ▶ When the unexpected happens
 - ▶ Compensate temporarily by reducing your current load
- ▶ Setbacks and relapses can happen for all kinds of reasons (i.e., taking on too much at once). If this happens, review your activity log and find a secure level to pull back to, even if it is several steps below.
 - ▶ Setbacks are normal and not a sign of failure.



Questions

