



Concussion Workbook

Version 1.1

Introduction

The Tall Tree concussion program has been grown from the ground up specifically for you – someone who has experienced a concussion and needs some help.

Our goals are to help you:

1. Get back to all aspects of your life
2. Better manage symptoms.
3. Resolve your concussion related symptoms
4. Improve your physical, cognitive and mental health
5. Better understand your injury and recovery process.
6. Feel happier and healthier

Keep in mind:

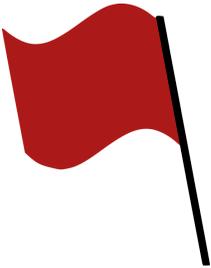
- Concussion affects every person differently
- People commonly recover completely from a concussion without any lingering symptoms.
- Symptoms often resolve within a few weeks or months.
- Recovery is still possible even if symptoms last longer



This concussion workbook has been designed to help guide you through recovery. More information is always available online in the Tall Tree Concussion Learning Hub.

What is a concussion?

- Concussions are head injuries that can happen when you hit or jolt your head. They often involve injury to the brain.
- Injury to your brain, neck, nerves, vestibular system or other parts of your head can cause symptoms
- You don't need to lose consciousness or have amnesia
- It won't always show up on a CT or MRI scan.
- Symptoms can be immediate but can also be delayed
- The brain is especially vulnerable to more injury within the first 3-4 weeks.
- After a month or more, symptoms in everyday activities do not mean your brain is being injured.



Look out for **Red Flags** like: Fainting, falling, loss of consciousness, constant severe headache, repeated vomiting, ongoing amnesia, confusion, odd behaviour, paralysis, weakness in arms or legs, double vision, vision problems, or slurred speech. **Seek out medical attention if you see these.**

What should I do?

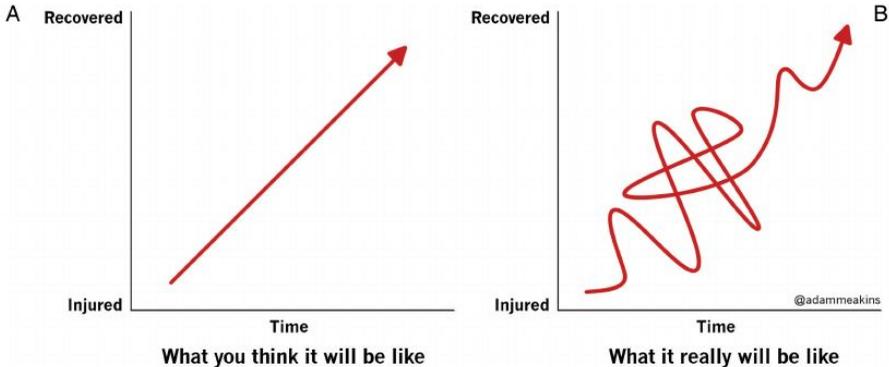
Follow a simple 4-step process:

1. Avoid additional injury
2. Seek out medical and rehabilitative help
3. Rest your body and brain for a few days
4. Return to activity gradually over time

When will I be better?

Everyone's journey is different. Sometimes rest will help all symptoms resolve, but often it's not enough. If your symptoms have lasted longer than a few weeks you should seek out rehabilitation.

Once you start addressing the cause of symptoms, most people feel better within a few months. If you take longer, don't lose hope! People with symptoms lasting years have seen improvement and sometimes complete resolution with the right approaches.



We suggest moving through several recovery stages:

1. Total rest
2. Low level activities at home
3. Light exercise
4. Moderate activity at home and in the community
5. School or work part time
6. School or work regular hours
7. Return to sports practice
8. Return to sports games

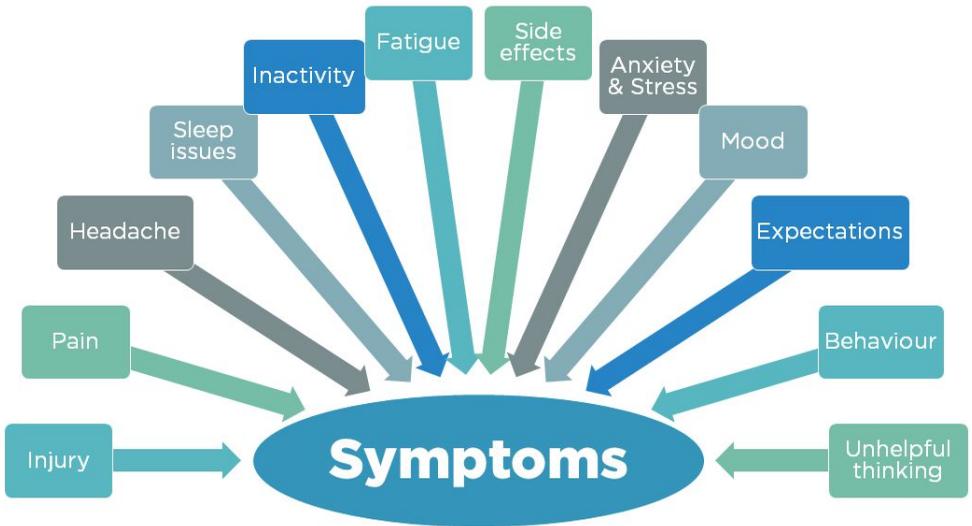


There are several different symptom types, each with different types of treatments. Check the ones that you experience:

<i>Physiological</i>	<ul style="list-style-type: none"><input type="checkbox"/> Symptoms worse with activity<input type="checkbox"/> Fatigue<input type="checkbox"/> Headache<input type="checkbox"/> Nausea<input type="checkbox"/> Sensitivity to light/sound<input type="checkbox"/> Dizziness<input type="checkbox"/> Difficulty concentrating, slowed processing<input type="checkbox"/> Mild symptoms at rest
<i>Vestibular & Vision</i>	<ul style="list-style-type: none"><input type="checkbox"/> Dizziness, light-headedness<input type="checkbox"/> Vertigo, lightheadedness or motion sickness<input type="checkbox"/> Nausea<input type="checkbox"/> Problems with balance or movement<input type="checkbox"/> Blurred or double vision<input type="checkbox"/> Difficulty reading<input type="checkbox"/> Eye strain and headache
<i>Neck-related</i>	<ul style="list-style-type: none"><input type="checkbox"/> Neck pain, tenderness & stiffness<input type="checkbox"/> Headaches at back of head<input type="checkbox"/> Lightheadedness and balance issues<input type="checkbox"/> No big change with exertion
<i>Emotional</i>	<ul style="list-style-type: none"><input type="checkbox"/> Depression and sadness<input type="checkbox"/> Anxiety or panic<input type="checkbox"/> Frustration, irritability and anger<input type="checkbox"/> Racing thoughts<input type="checkbox"/> Lack of motivation<input type="checkbox"/> Minimal or no change in symptoms with exertion
<i>Cognitive</i>	Difficulties at rest with: <ul style="list-style-type: none"><input type="checkbox"/> Attention<input type="checkbox"/> Memory<input type="checkbox"/> Executive Function<input type="checkbox"/> Information / sensory processing

Why do I have symptoms?

- Initially, symptoms are mostly due to injury to the brain or other parts of the body (neck, vestibular system, nerves)
- As time passes, other factors lead to symptoms too
- Sometimes it's the other factors that are the main issues



Key message: Your brain injury is not to blame for all symptoms. Brains are able to heal themselves over time (usually a few weeks or months). We often need to address other factors in order to recover.

Goal setting

1. Choose 3-5 activities you are finding difficulty and want to return to
2. Score each activity (out of 10) how well you are able to do it
3. Track your progress over time

Activity	Initial	Date:	Date:
1.			
2.			
3.			
4.			
5.			

0	1	2	3	4	5	6	7	8	9	10
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Unable to perform at all

How to score

Able to perform as before injury

Returning to Activity

- You should rest right away for the first few days after injury
- You don't need to stop all activity completely
- Start getting back to things as soon as you can tolerate
- You'll want to return to easy activities first (like stuff around the house) before progressing back to school or work
- You should not return to any risky activities where there's a chance of injury for at least 3 weeks (and in most cases longer).

What Type of Activities Are Okay to Do?

- Normal everyday activities will not damage your brain (even though you still experience symptoms).
- Engage in activities that don't over-aggravate your symptoms. Use the stop-light exertion scale (on the next page)



Homework activity: List activities below that you can be engaging in:

How much can I do?

There are several options to track your symptoms and decide on the right amount of activity:

Stoplight Exertion Scale



RED ZONE. My symptoms flared up immediately and did not calm down for hours (or days). I had trouble coping. I should avoid this.

YELLOW ZONE. My symptoms increased but were tolerable and subsided within a few minutes or hours. **This is what to aim for.**

GREEN ZONE. Activity did not change my symptoms much. I should increase the intensity or duration.

10-point scale

Another way of looking at tracking symptoms is using a classic 10 point scale.

0	1	2	3	4	5	6	7	8	9	10
None	Mild			Moderate			Severe			

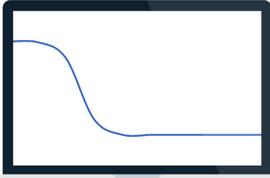
It's normal for activity to provoke symptoms. Keep the increase in symptoms below 3 points on the 10 point scale.

Keep in mind:

"Hurt" or Symptoms	<i>not the same as</i>	"Harm" or Damage
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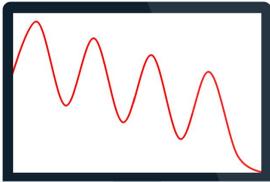
Pacing myself

There are 2 common patterns of activity that we see after concussion:



Underactivity

- “Total rest” or “waiting to feel better”
- Avoiding activity leads to more difficulties over time



Overactivity

- “Boom and bust”, “pushing through” or “No pain no gain”.
- Doing too much leads to more difficulties over time

Ideally you want to take a balanced approach:



Pacing

- Balancing activity and rest
- Challenge yourself a little, then rest a little and repeat
- Do more gradually over time



Circle which approach you tend to take

Pacing

Everything you do in a day will require energy, including: meal prep, driving, social time, shopping, work, reading, computer use and childcare.

Ask yourself everyday: how much energy do I have to spend?

How to pace yourself

1. List out the things you have to do (today or this week)
2. Decide how much energy you have right now
3. Estimate how much energy each activity will take
4. Plan your activities accordingly

For example: I have 10 points to spend today

<u>Activity</u>	<u>Energy needed</u>
Morning Walk	2
Groceries	4
Coffee with Ben	3
Emails/phone	1

Energy remaining: NONE

“Know your limit, play within it”



TIP: Balance rest and activity through the day and avoid totally depleting your batteries.

Graded Activity

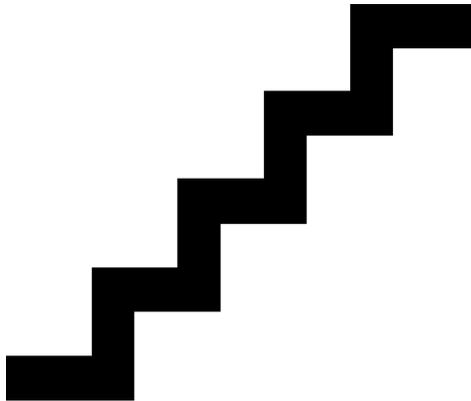
You may hear us talking about “graded activity” or “graded exposure” during treatment. This means:

Breaking down activity into smaller parts and gradually doing more over time.

Every activity can be modified and made easier. Going back to things doesn't have to be all-or-nothing.

The process:

1. Choose an activity you want to get back to
2. Break it down into parts
3. Create your own progression



Homework activity: Write a return to activity plan on the next page

Return to Activity Planning

Create your own custom return to activity plan. Each major activity should have its own plan (eg. for work, exercise, computer use, reading).

Activity	<i>Example: Running</i>	A:	B:	C:
START POINT	<i>Walking 15 minutes</i>			
Stage 1	<i>Walking 30 minutes</i>			
Stage 2	<i>Walking 45 minutes</i>			
Stage 3	<i>Walking 60 minutes</i>			
Stage 4	<i>Jogging 30 minutes</i>			
Stage 5	<i>Running 15 minutes</i>			
GOAL	<i>Running 30 minutes</i>			

Move to the next stage when symptoms are manageable. Activity should not make your symptoms more than 3 points worse (on a 10 point scale).

Return to Activity Strategy

Follow the suggested progression below for overall activity.

Move to the next stage when symptoms are manageable. Activity should not make your symptoms more than 3 points worse (on a 10 point scale).

<input type="checkbox"/>	1	Physical and cognitive rest (up to 3 days)
<input type="checkbox"/>	2	Light activity - up to 30 minutes at a time Rest ratio: 30 minutes activity then 2 hour rest
<input type="checkbox"/>	3	Light activity - 45 minutes at a time Rest ratio: 45 minutes activity then 1.5 hour rest
<input type="checkbox"/>	4	Light activity - 60 minutes at a time Rest ratio: 60 minutes activity then 2 hours rest
<input type="checkbox"/>	5	Moderate activity - up to 2 hours at a time Rest ratio: 2 hours activity then 1 hours rest
<input type="checkbox"/>	6	Moderate activity - up to 4 hours at a time Rest ratio: 4 hours activity then 2 hours rest
<input type="checkbox"/>	7	Normal activity level (with additional rest)
<input type="checkbox"/>	8	Normal activity level (with regular amounts of rest)

These are just estimates and will vary. Progress yourself consistently and gradually and balance activity and rest.

Sleep

Getting good sleep can speed up recovery.



Sleep tips

Things to try:

- Go to bed and wake-up at the same time 7 days a week
- Get up right away with the alarm (don't use snooze)
- Don't nap during the day if it makes it hard to sleep at night
- Exercise regularly each day (20-30 minutes)
- Have a quiet, dark, and cool bedroom
- Use a strategy to reduce stress, or worries before bedtime
- Have a consistent wind-down and pre-sleep routine daily
- Get sunlight (or full spectrum light) during the day
- Use bed for sleep only. Rest other places in the home

Things to avoid:

- Drinking caffeine after lunch
- Consuming alcohol or smoking in the evening
- Lack of regular exercise
- Using screens before or in bed
- A bright, hot/cold and noisy sleep environment
- Lots of sugar before bedtime
- Going to bed with stress or worries
- Trying to force yourself to sleep
- Napping late in the day
- Using the snooze button
- Eating, using computer or phone in bed.

Check off the things that you do

Stress

Getting a concussion and dealing with symptoms is stressful! But stress itself can be a problem and slow down recovery.

Dealing with Stress

Reducing and managing stress will improve your recovery and help you feel better faster. There are lots of ways to reduce stress. Check off the ones you do:

- Exercise
- Maximizing Sleep
- Eating balanced meals and avoiding too much caffeine of alcohol
- Planning ahead
- Prioritizing the most important activities
- Keeping a consistent routine
- Change your environment
- Try distractions
- Delegate and ask for help

Circle the ones you want to try

Mindfulness and meditation are very effective tools for dealing with stress after concussion. Your OT will help you practice mindfulness skills and provide you with a program.



Homework activity: use the Headspace app and do 10 minutes of meditation practice for up to 10 days.

Exercise

When can I start Exercising?

- Low level exercise like walking can be started right away.
- After the first few days, begin other light exercise as tolerated (doesn't increase symptoms more than 3 points)

What Kind of Exercise Is Recommended?

- Moderate non-contact activity of most kinds is safe.
 - a. **Examples include:** walking or hiking, stationary bike, yoga, calisthenics (bodyweight exercises), Tai Chi, pilates, water exercise, swimming

How Much Exercise Is Okay?

- Start with low intensity for just a few minutes
- Increase the duration, intensity or type of exercise gradually
- Exercise 20-30 minutes at least 5 days per week at moderate intensity
 - Refer to the stoplight and 10 point scale for guidance
- Get support and guidance from your healthcare team



Homework assignment: create an exercise log and exercise 5 days this week for 20 min

For returning to sport - follow the Return to Sport Strategy

Diet

Quick Tips:

- ❑ Eat as often as needed and consistently throughout the day.
- ❑ Have a regular schedule of meals
- ❑ Don't overeat or restrict carbohydrates (unless told to)
- ❑ Limit simple sugars and foods with high glycemic index
- ❑ Avoid processed foods
- ❑ With supervision, consider a diet that increases ketones
- ❑ Eat a diet rich in vegetables
- ❑ Prioritize "healthy" fats! Your brain is over 50% fat by weight.
- ❑ Work with a healthcare professional to find if you have nutritional deficiencies. Then consider supplementing with:
 - ❑ Omega-3 fatty acids
 - ❑ Vitamin B
 - ❑ Vitamin D
 - ❑ Iron
 - ❑ Zinc
 - ❑ Magnesium
- ❑ Eat a low-inflammation diet.
- ❑ Stay well hydrated (with water)
- ❑ Avoid alcohol
- ❑ You may consider avoiding or reducing caffeine and other nutritional stimulants
- ❑ Under supervision, consider other supplements that improve gut health and mitochondrial health



Homework exercise: create a meal log and track eating for one week.

Thinking and thoughts

How you think about your situation and challenges can affect your progress and success in recovery. Thoughts can be your allies but they can also be your enemies.

A common “vicious” thinking cycle:



What is your thinking doing for you?

Your rehab team can help you understand what kinds of thinking is helping you or hindering you. **Keep in mind that why you think affects how you feel and what you do.**

Unhelpful thinking styles

All or nothing thinking



Sometimes called 'black and white thinking'

If I'm not perfect I have failed

Either I do it right or not at all

Over-generalizing

"everything is always rubbish"
"nothing good ever happens"

Seeing a pattern based upon a single event, or being overly broad in the conclusions we draw

Mental filter



Only paying attention to certain types of evidence

Noticing our failures but not seeing our successes

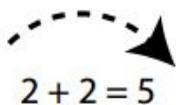
Disqualifying the positive



Discounting the good things that have happened or that you have done for some reason or another

That doesn't count

Jumping to conclusions



There are two key types of jumping to conclusions:

- **Mind reading** (imagining we know what others are thinking)
- **Fortune telling** (predicting the future)

Magnification (catastrophizing) & minimization



Blowing things out of proportion (catastrophizing), or inappropriately shrinking something to make it seem less important

Emotional reasoning



Assuming that because we feel a certain way what we think must be true

I feel embarrassed so I must be an idiot

should must

Using critical words like 'should', 'must', or 'ought' can make us feel guilty, or like we have already failed

If we apply 'shoulds' to other people the result is often frustration

Labelling



Assigning labels to ourselves or other people

I'm a loser
I'm completely useless
They're such an idiot

Personalization

"this is my fault"

Blaming yourself or taking responsibility for something that wasn't completely your fault

Conversely, blaming other people for something that was your fault

Other resources

On the Tall Tree Concussion Website you will find:

1. Activity Logs
2. A learning hub (lots of detailed information)
3. Return to School or Work Strategies
4. Return to Sport strategies
5. Exercise videos
6. App suggestions

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