Understanding Traumatic Brain Injury: Part 1

Hi, I’m Sam! I’m at City Hospital visiting my brother Mike. He was in a car accident...

...come on, I’ll introduce you to my family.

This is Mike, and our parents Carolyn and Lewis. He’s been in the Neuro ICU (NICU) for two weeks for his Traumatic Brain Injury (TBI).

Mike, today is a big day, you’re going to the Rehabilitation Unit!

Where are we? Can’t I just go home?

You’re at City Hospital but you’ll be able to go home soon.

Therapies you’ll have in rehab will help you with your recovery.

A period of confusion and disorientation often follows a TBI.
TBI REHABILITATION

Therapies on a brain injury rehabilitation unit begin the process of recovery by helping the brain make new connections. Patients may have physical, occupational, and speech therapy, as well as other treatments. Remember that these changes don’t happen quickly. Therapies in a hospital are a good first step, but are usually followed by outpatient therapy and activities at home.

Cheryl is a physical therapist who evaluates physical limitations, rates how severe they are, and plans interventions to help address them.

Hi Mike, our goal today is to make a plan to get you back to walking. Are you ready?

Yep! That sounds good.

Okay Mike, I want you to hold your leg straight. I’m going to try to push it down. Don’t let me.

Now that we know which muscles need work we can start making an exercise program.

You have some balance issues, but your main physical problem is that you are weak from being in bed for so long.

Physical limitations usually don’t keep people from driving or living independently in the long term.

Most people with TBI are able to walk and use their hands well within the first year of their injury.

TBI may result in lasting physical effects. Issues with balance, weakness, or fatigue often keep people from returning to the same level of activity as before the injury.

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Great work today! I bet you’re tired!

I’m really tired...

Let’s give Mike some space and check back in for his rehab psych appointment on Friday.

Jeanne is a Clinical Psychologist who specializes in rehabilitation psychology. She provides counseling after a TBI and sometimes uses neuropsychological tests to assess cognitive strengths and weaknesses someone may have after a TBI.

Yeah, some of the tests were really hard!

Well that’s OK. They’re meant to be difficult.

Mike, we’ve gotten the results of your neuropsych evaluation and you did well, but there are a few areas where you had some difficulty.

You had some problems focusing, switching your attention between things, and processing larger amounts of information...

These are common problems after a TBI and I expect that as your brain continues to heal you’ll improve in all these areas.

Oh good.

I’d like you to meet with Li; she’s our speech and language therapist. She’ll work with you on your cognitive recovery.

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After a brain injury, a person may have trouble with some of the cognitive activities necessary to be independent and competent in our complex world. The brain processes large amounts of information all the time allowing us to be independent in our daily lives. This is called executive function. Individuals with moderate-to-severe brain injuries often have problems in basic thinking skills such as paying attention, concentrating, and remembering new information. They may also:

- Think, speak, and solve problems slower,
- Become upset when routines are changed or when there is too much activity or noise,
- Stick to a task too long, or not long enough, and may be unable to switch to a different one when having difficulties,
- Choose the first “solution” without thinking it through,
- Have speech and language problems, like trouble understanding some words or finding the right one.

**SPEECH AND COGNITIVE THERAPY**

Hi Mike, today we’re going to do some exercises to strengthen your focus, and your ability to organize information...

Hi! I’m Li, a speech and language pathologist. I help people resolve language problems like trouble speaking clearly or finding the right words. I also help to address other cognitive problems like organization, focus, and processing larger amounts of information.

I always wanted to be an executive, but I’m not sure I’m dressed for it.

I can also teach you some strategies for how to deal with some of your limitations.

Let’s get ready for Mike to leave the hospital next week. But there’s one big problem that Valentina is helping us with.

As a rehab focused social worker, Valentina provides guidance and counseling to help direct patients to the resources that they need and helps with transition out of the hospital.

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PROBLEM-SOLVING METHODS

When Mike leaves next week he's going to move in with us for a while; the problem is that we don't have an easy way to get his stuff out of his old place.

We can't afford to pay movers, don't have the time to do it ourselves and feel weird asking friends.

This is a great time to go through the problem solving method!

So, here are steps in the problem solving method. Look! You've already done the first two!

Now it seems so obvious... I guess I should call and ask for their help.

Now let's list the pros and cons of each one.

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<tr>
<th>PAY MOVERS</th>
<th>D.I.Y.</th>
<th>ASK FRIENDS</th>
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<tr>
<td>To do it all</td>
<td>Free</td>
<td>FREE/ wouldn't take the whole family</td>
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<tr>
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Identify the problem and set a goal
- Brainstorm solutions
- List positives/negatives of each one
- Choose the best one
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If you're new to the problem solving method, practice with a small problem before using it on a big ones.

EMOTIONAL AND BEHAVIORAL PROBLEMS

Changes in emotions and/or behavior are common after TBI. Physical or chemical changes to the brain, difficulty thinking or paying attention, and economic or life changes resulting from changed abilities can all be causes. These changes can be distressing for everyone. Fortunately, with training, therapy, and other supports, people can learn how to manage these problems. It's also important for people who are close to them to find ways to cope with their distress.
Some of the behavioral changes that people may experience after a TBI include:

- Restlessness
- Being more dependent on others
- Mood swings
- Irritability
- Aggression
- Lethargy
- Acting inappropriately for the setting
- Lack of self-awareness (this could caused by either the TBI or being in denial about their situation)

OCCUPATIONAL THERAPY

As an occupational therapist Raj’s goal is to help people be as independent as possible in their daily activities and to help them have meaningful and satisfying lives.
SAFETY TIPS:

Depending on the symptoms that the person with TBI has, some of these tips may not be necessary, if you are unsure ask your health care provider.

- Keep clutter out of areas in use, and off stairs. Also remove small rugs that could be tripped on.
- Remove dangerous things (matches, knives, and guns).
- Keep medications in a locked cabinet or drawer.
- Ask your doctor before giving over-the-counter medications.
- If there is a risk of falling out of bed, place the mattress on the floor
- Light rooms well. Night-lights can prevent falls.
- Do not leave someone who is severely agitation or confused, alone.
- If you live with or care for a person who tends to wander, keep doors to potentially dangerous areas (like basements) locked. You may also consider having an ID bracelet made.
- Consider attaching an exit alarm or a bell to doors to the outside of the house.

Clutter can be a safety concern, but visual clutter can also cause over-stimulation.
SOURCE

The health information presented in this Graphic Fact Sheet is based on evidence from research and/or professional consensus and has been reviewed and approved by an editorial team of experts from the TBI Model Systems.

AUTHORSHIP AND ILLUSTRATION

Understanding TBI was illustrated by David Lasky, it was written by Silas James and Ayla Jacob. Portions of this InfoComic were adapted from the four part series of Consumer Information Pamphlets also titled Understanding TBI, which was developed by Thomas Novack, PhD, and Tamara Bushnik, PhD in collaboration with the Model System Knowledge Translation Center. Portions of this document were adapted from materials developed by the University of Alabama TBIMS, Baylor Institute for Rehabilitation, New York TBIMS, Mayo Clinic TBIMS, Moss TBIMS, and from “Picking up the Pieces After TBI: A Guide for Family Members”, by Angelle M. Sander, PhD, Baylor College of Medicine (2002).

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