

# Brain Talk

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**braininjuryhelp.ca**

Acquired Brain Injury System Navigation  
of Southeastern Ontario



Ontario

South East Local Health  
Integration Network  
Réseau local d'intégration  
des services de santé  
du Sud-Est

# If you are concerned about your health, see your doctor!!

I am not a doctor and this talk is not intended to substitute individualized medical advice.

Many conditions can appear similar to brain injury and so any symptoms should be assessed properly.



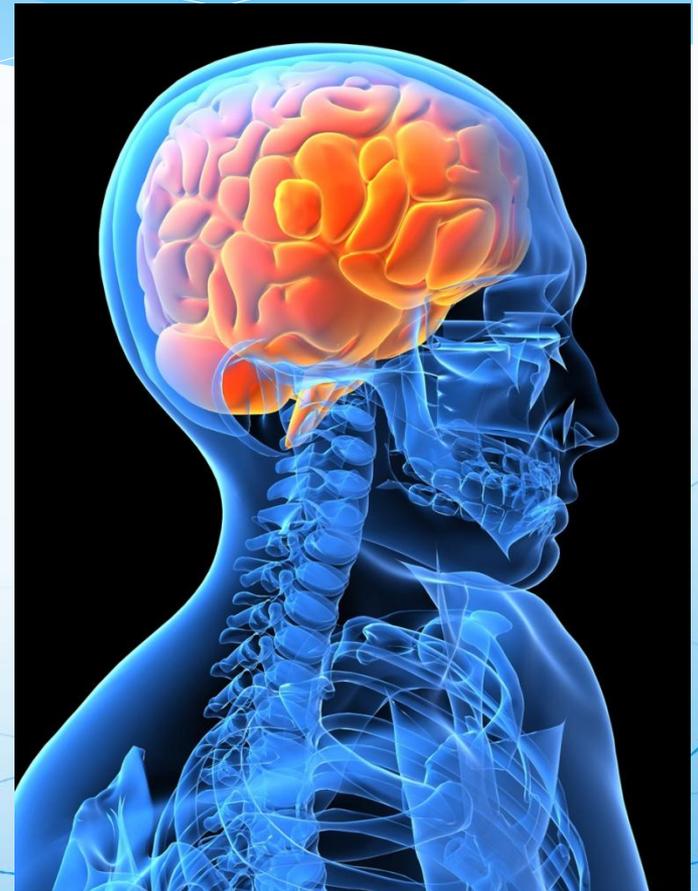
# Key Questions:

1. How Does My Brain Work
2. What is a Brain Injury?
3. What Happens During Recovery?
4. What Services are Available?
5. Is it Normal to Feel This Way?
6. Your Own Questions and Answers



# Brain Facts

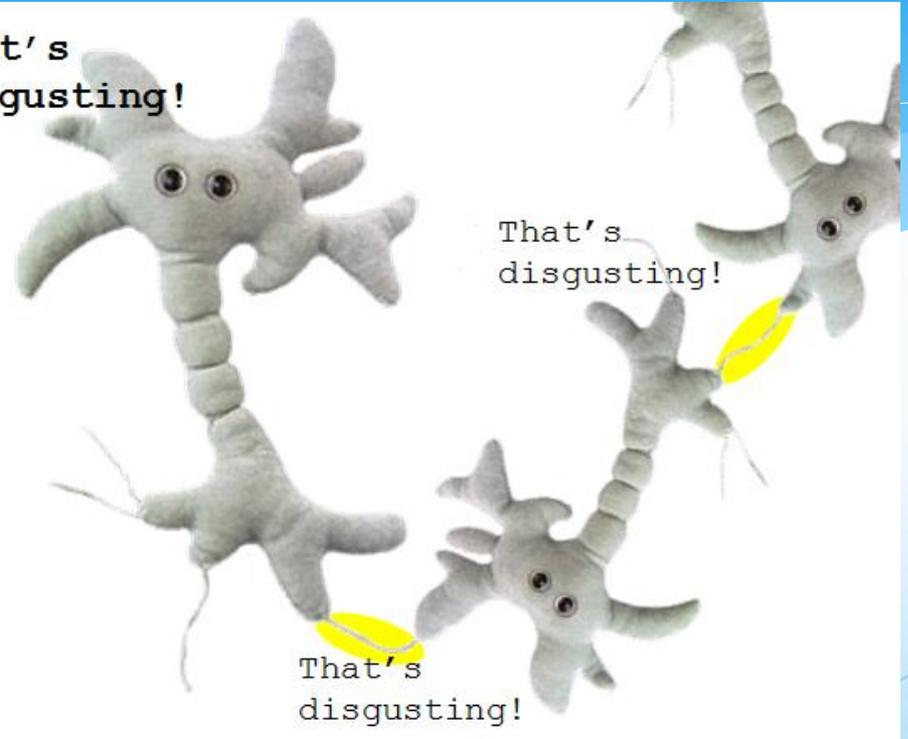
- \* Contains 200 billion neurons (Nerve cells)
- \* Weighs approximately 3 pounds
- \* Each neuron connects (on average) to 50 other neurons
- \* Two distinct components: White Matter and Grey Matter
- \* Components include Cortex, Corpus Callosum, Cerebellum, Brain Stem



# How your brain works:



That's disgusting!



# Your Brain Controls:

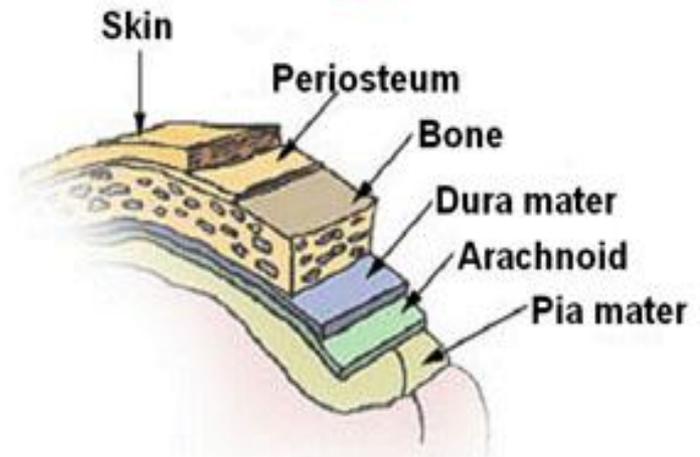
- \* Emotions and Mood
- \* Our 5 Senses
- \* Hormonal regulation
- \* Brain chemistry
- \* Sleep and wakefulness
- \* Alertness, concentration, and attention
- \* Movement and balance
- \* Strength
- \* Speed
- \* Speaking and understanding language
- \* Organization and planning

# Protection for the Human Brain

## Layers of Protection:

- \* Skull
- \* Meninges
- \* Cerebrospinal Fluid

## Meninges



**Dura mater** -- outer layer lining skull

**Arachnoid (mater)** -- contains blood vessels

**Subarachnoid space** -- filled with CSF

**Pia mater** -- covers brain

# Brain Injury Defined

Damage to the brain, which occurs after birth and is not related to a birth disorder or a progressive disease.

Traumatic Brain Injury (TBI) may be caused by a violent movement of the head or penetrating injury, for example a car accident, fall, or shrapnel.

Acquired Brain Injury (ABI) caused by other sources such as an aneurism, brain tumour, or lack of oxygen.

Sometimes the term “ABI” used to refer to both ABI and TBI.

# We are all unique

Individual Strengths and Weaknesses  
+ Different Area of Brain Injured  
Unique Brain Injury Effects

- \* Different recovery times
- \* Different symptoms
- \* Different strategies

**Frontal lobe**

Executive functions, thinking, planning, organising and problem solving, emotions and behavioural control, personality

**Motor cortex**

Movement

**Sensory cortex**

Sensations

**Parietal lobe**

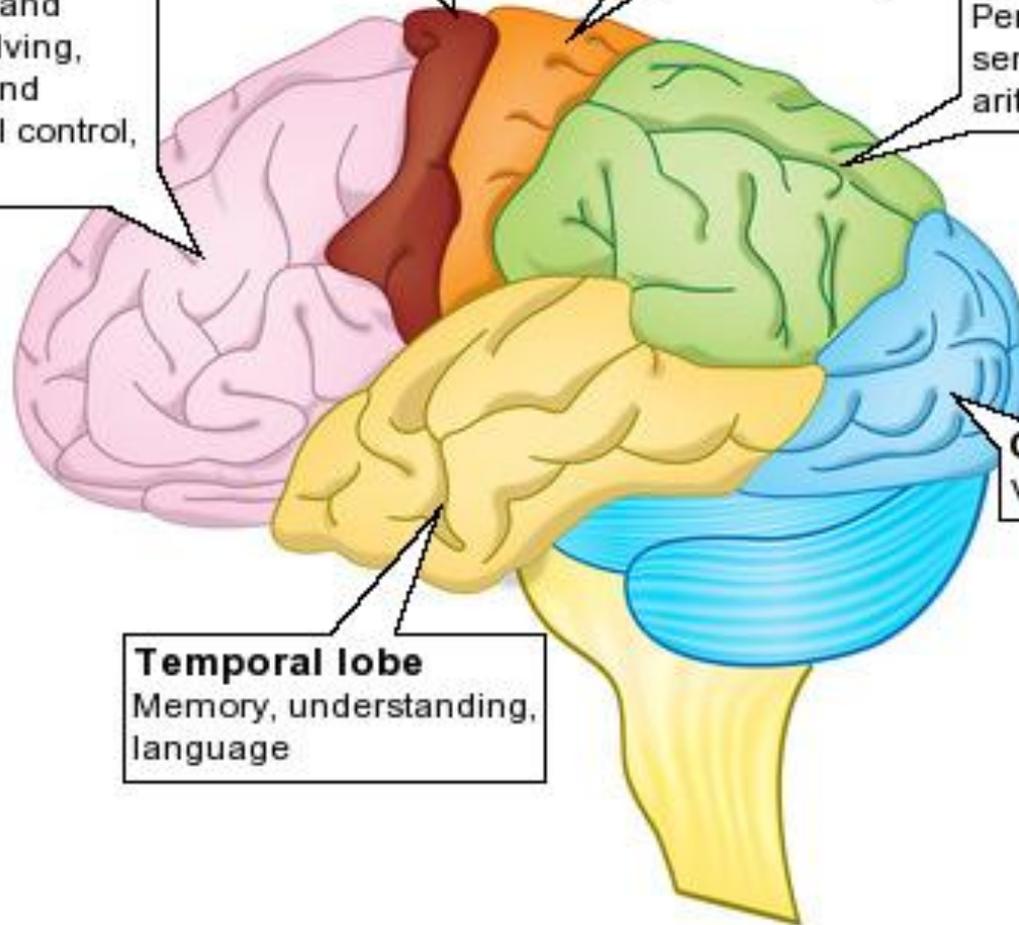
Perception, making sense of the world, arithmetic, spelling

**Temporal lobe**

Memory, understanding, language

**Occipital lobe**

Vision



# Mild, Moderate and Severe

Classified by 2 factors:

1. Length of loss of consciousness ( LOC) or post-traumatic amnesia (PTA)
2. Glasgow Coma Scale (GCS)

**Severe:** LOC and/or PTA more than 24 hours,  
GCS: 3-8

**Moderate:** LOC and/or PTA more than 30 min, but less than 24 hrs.  
GCS: 9-12

**Mild:** LOC and/or PTA under 30 min,  
GCS 13-15

Concussions are classified as mTBI

# Concussion

## a.k.a. Mild Traumatic Brain Injury

What is it?

- \* A concussion is a TBI caused by a sudden jarring to the head, causing the brain to bounce or twist in the skull.
- \* It damages the brain cells and creates chemical changes, disrupting the way the brain works.
- \* Microscopic changes cannot be seen on x-rays, CT scans, or MRIs.



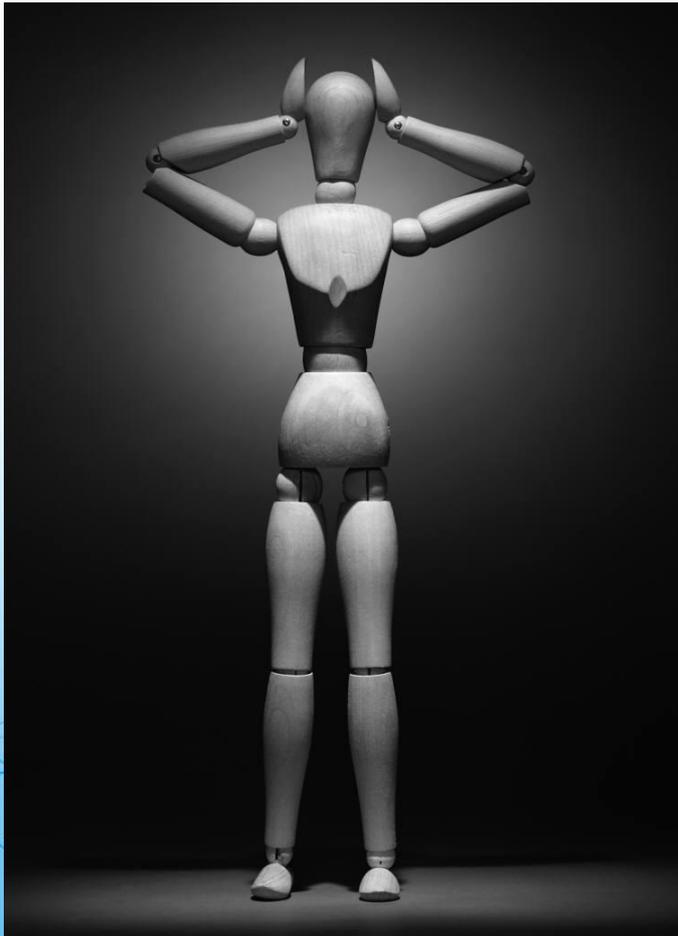
# What may be Experienced

- \* Headache, pain or pressure in head
- \* Nausea and vomiting
- \* Double vision and dizziness
- \* Sensitivity to light or noise
- \* Seeing stars, flashes of light, or hearing ringing in the ears
- \* Feeling out of sorts, that something is not right
- \* Nervousness
- \* Irritable
- \* Difficulty focusing

# What does it mean?

- \* Temporary changes occur make the brain more sensitive to additional injuries and stress through the healing process.
- \* It affects the way a person may think and remember things for a short time – days to months.
- \* Having had previous concussions may increase the chance that a person may take longer to heal, and may have long term consequences.
- \* Gradually return to regular activities, using your symptoms as a guide

# Brain Injury Symptoms



## Brain Injury Impacts Many Areas

- \* Medical
- \* Physical
- \* Sensory
- \* Thoughts and Communication
- \* Behaviour and Personality

# An Invisible Injury

- \* The survivor's struggles aren't always apparent to others
- \* Difficulties with fatigue, attention, mood, and pain cannot be seen
- \* If you want to help a survivor, ask them if you can help, but don't make assumptions about what they can or cannot do.
- \* With practice, survivors can learn to tell others how to help. Eg. "My memory is terrible. Can you write that down?"



# Recovery

I THINK WE MAY NEED TO  
UPDATE OUR DISASTER RECOVERY PLAN.  
THIS ONE SUGGESTS WE ALL RUN  
AROUND IN CIRCLES SHOUTING  
'WHAT DO WE DO?!!' 'WHAT DO WE DO?!!'



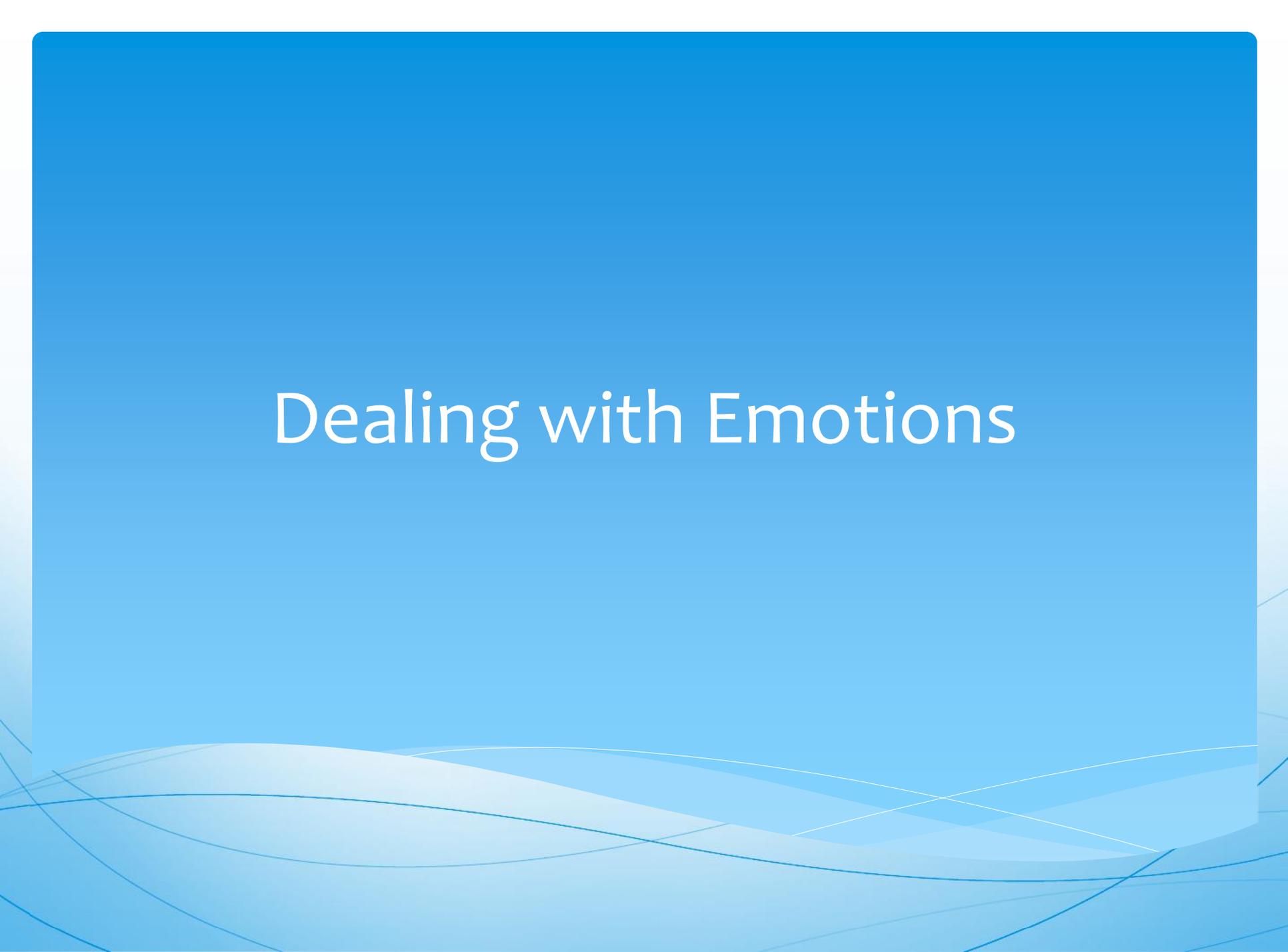
# What Affects Recovery?

- Age
- Health
- Seriousness of Injury
- Early medical care
- Length of coma
- Amount of time since injury
- Pre-injury personality and abilities
- Quality of rehabilitation and support

# How and When?

- \* Begins within 24 hours and continues for a lifetime.
- \* Brain chemistry slowly returns to normal.
- \* Injured neurons sprout and establish new connections.
- \* Neuroplasticity occurs - uninjured areas of the brain take over from injured areas
- \* Some things will be the same as before the injury – others will be very different.

# Dealing with Emotions

The image features a solid blue background with a gradient from a darker shade at the top to a lighter shade at the bottom. At the bottom of the image, there are several overlapping, wavy white lines that create a sense of movement and depth, resembling a stylized horizon or a series of waves.

# Adjusting to Change

## Stages of Grief and Loss: Dr. Roberta Temes

1. Numbness (mechanical functioning and social insulation)
2. Disorganization (intensely painful feelings of loss)
3. Reorganization (re-entry into a more 'normal' social life.)

# Emotions and Mental Health

- \* Having a brain injury can increase your risk for certain mental health conditions
- \* Can be caused by changes to thought processes and ability to control emotions, loss of abilities and freedoms, changes in relationships, difficulty coping
- \* Improvements can occur in many ways: by learning new strategies, finding enjoyable activities, medications, or counselling



# Early Warning Signs

Learn to identify your body's signals that you're feeling overwhelmed:

- \* Heart racing
- \* Clenching muscles
- \* Racing thoughts
- \* Butterflies / feeling in pit of stomach
- \* Holding breath
- \* Pacing, fidgeting
- \* Lump in throat

# Managing Emotions

- \* Deep breathing for 10 seconds
- \* Take a break – walk away from the situation
- \* Don't push yourself to the breaking point
- \* Don't talk about sensitive issues at the low point of your day
- \* Identify triggers
- \* Avoid triggers or give people warning if you need to talk about something difficult
- \* When a situation is over reflect on what you could do differently next time. Look at it as a learning experience, don't focus on the negative.
- \* Come up with a plan to address specific symptoms so that they have less of an impact on your quality of life.

# Advice for Family Members

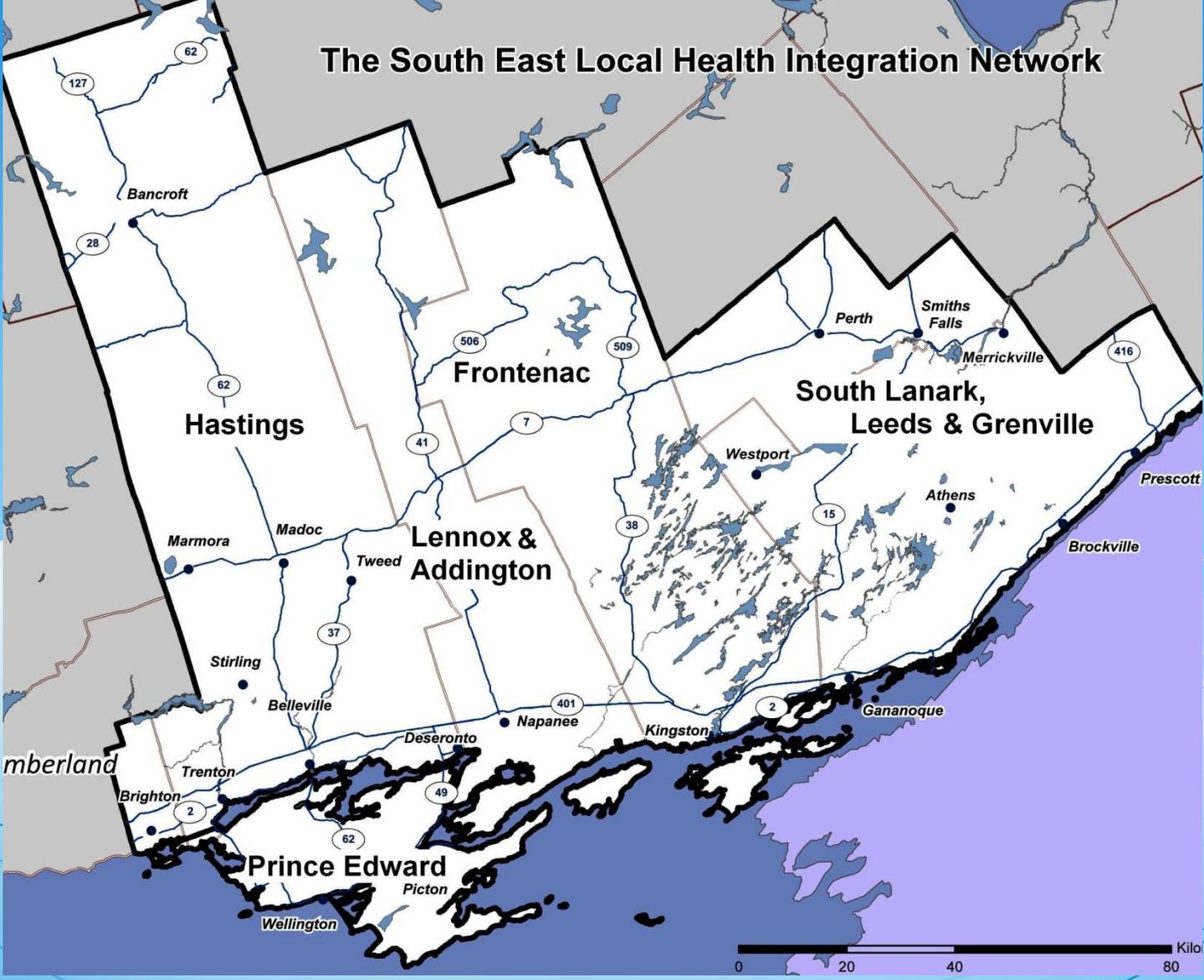
- \* Accept the person as they are now. Your loved one will be the same in many ways, but different too.
- \* Include your loved one as much as possible in making decisions.
- \* Arm yourself with knowledge. Learn all that you can about your loved one's condition.
- \* Be realistic but maintain hope. Recovery occurs slowly.



# Staying Connected

- \* Caregivers need to take care of their own needs too – if you feel like yourself, you will be a better caregiver.
- \* Don't isolate yourself! Get out of the house and do things together.
- \* Don't be afraid to ask for help.
- \* Take time for yourself with friends or family who support you or contact a caregivers support group.

# Services



# Services Available

- \* Services admission criteria may be dependent on type of service required and severity of injury
- \* Services may include Rehabilitation Counselling, Forms of Therapy (Occupational, Physical, Speech-Language) Transitional Living Services, Residential Living Options, Support or Recreational Groups
- \* Service providers may accept self-referral or need a physician's referral

Thanks for being here tonight!

Questions?

