I AM NOT ME:
Emotional Adjustment After Concussion/Mild Brain Injury

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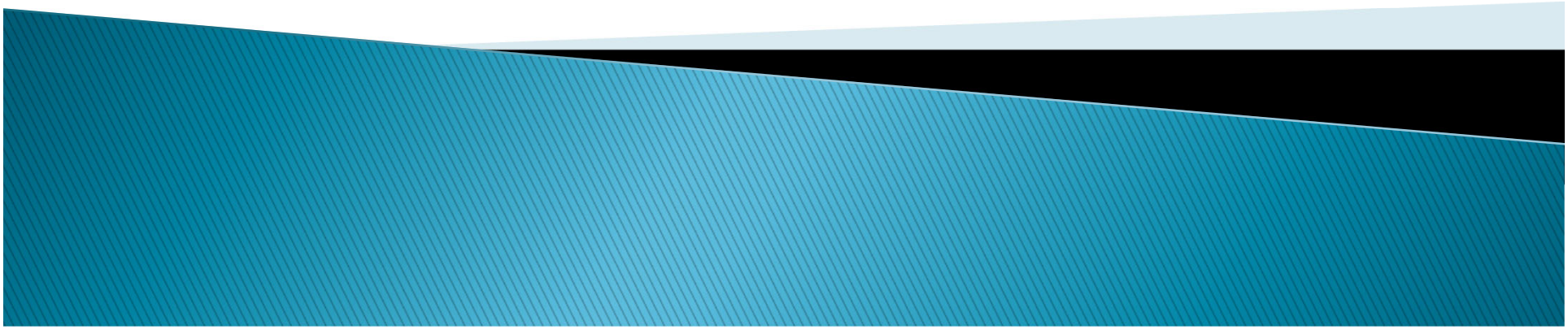
ReMed

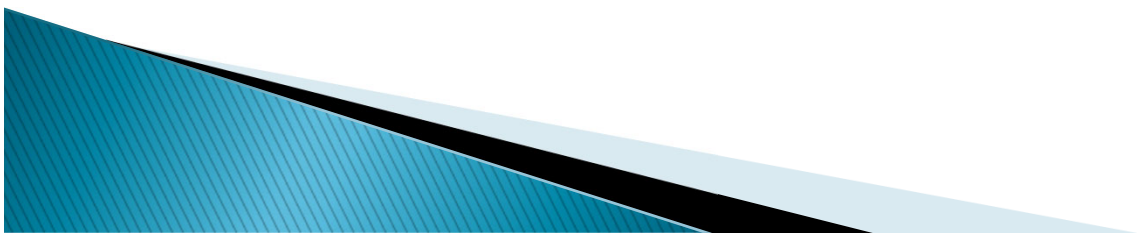


Objectives

1. Define the emotional symptoms which may follow concussion/mild traumatic brain injury: Depression, PTSD, Anxiety

2. Consider "Drama vs Disability" issues: The controversial issues

3. Review Coping Strategies



OVERVIEW

IT IS A GIVEN THAT EMOTIONAL REACTIONS AND CHANGES IN EMOTIONAL CONTROL MAY OCCUR AFTER A BRAIN INJURY

THIS IS AS HONORABLE AS PHYSICAL CHANGES

IT IS ALSO A GIVEN THAT YOU CAN LEARN TO IMPROVE YOUR EMOTIONAL HEALTH WITH STRATEGIES, MEDICATION, AND SUPPORT.

Evolution of Our Understanding of Mild Traumatic Brain Injury

- "The usual patient loses consciousness briefly, soon recovers, and is therefore **without symptoms.**" (Vick, 1979) (TRUE IN MANY CASES BUT….)
- Persistent symptoms: "accident neurosis or "**compensation neurosis**" (Levy, 1992)
- Persistent **post concussion syndrome**: impaired attention, memory, executive function, emotional regulation (Bigler, 2008)

Mild Traumatic Brain Injury

- A concussion is a mild TBI
- Most concussions have no loss of consciousness (less than 10% in sports)
- Adolescents are at increased risk and take longer to recover
- Females may be more susceptible (maybe twice as likely) and take longer to recover
- There can be a delay in symptom onset
- Repeat concussions, even when mild, can increase the risk of post concussive symptoms i.e. dizziness, memory loss, headaches, difficulty concentrating

Recovery Path after Mild TBI

- Many: no discernible symptoms at all
- Others: complete recovery in 3 months
- One Third: symptoms beyond 3 months
- Eight Percent: significant symptoms after one year

(Binder, 1997)

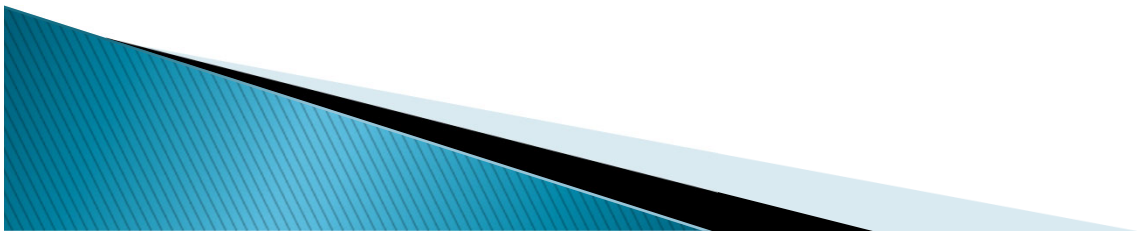
MTBI: Controversial Diagnosis

MTBI who do not recover (Miserable Minority) either "falsely attribute pre-injury problems to trauma or exaggerate" for litigation or emotional reasons. (Ruff et al 1996)

MTBI: Controversial Diagnosis

In a normal population, 10-20% complain of headaches, poor memory, depression.

(Wong, Regennitter, Barrios, 1994)



MTBI: MISUNDERSTOOD?

CT and MRI may not be sensitive enough to show presence or absence of Diffuse axonal injury (85% normal)

Neuropsychological data do show deficits

Tests are becoming more sensitive (protein, biomarkers)

How do we explain the LOSS? If no secondary gain (no lawsuits).

Post-Concussion Symptom Scale
(Pardini, Lovell, Collins et al. 2004)

- FOUR FACTORS:
  1. **Neuropsychiatric**: emotional, irritable, sad
  2. **Migraine/Physical**: nausea, dizzy, visual, H/A
  3. **Cognitive**: slowed, foggy, attention, memory, fatigue
  4. **Sleep disturbance**: trouble getting to sleep, or getting enough sleep

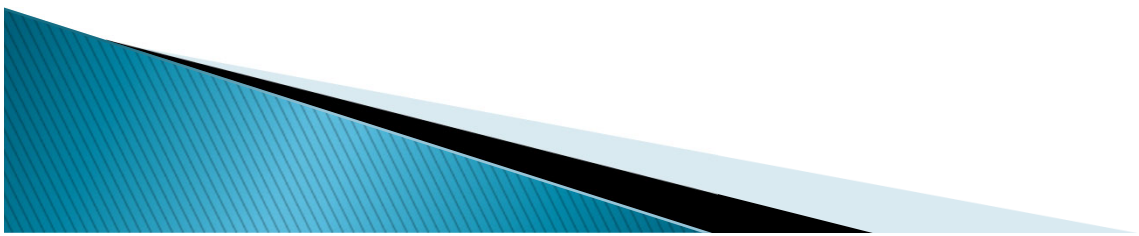
(327 high school and college athletes within 7 days. Factor analysis of symptoms)

"I AM NOT ME"

- *I feel sad*
- *I can't concentrate or remember things*
- *I used to be quick thinking*
- *I often have a short fuse, snap for no reason*
- *I have headaches, I feel dizzy, lights bother me*
- *I am slow, I get overwhelmed*
- *I get so tired easily*
- *My vision does not work right*
- *I make mistakes*
- *What can I do now?*
- ***Who am I?***

SYMPTOMS

- Affect sense of well being, of feeling “like yourself”
- Affect thinking, memory, attention
- Affect relationships/mood
- Affect daily activities (eg finances, driving)
- Affect work
- Affect enjoying things and events



EMOTIONAL SYMPTOMS AFTER BRAIN INJURY

Emotional Reactions after MTBI

- MTBI
- Cognitive disruption
- Lasts longer than expected
- Problems with daily functioning
- Experience of failure, frustration
- Leads to "shaken sense of self"
- Feeling of "going crazy"
- Anxiety about failure leads to depression
- More cognitive dysfunction

(Kay, 1993)

Social/Emotional Changes After BI

Depression

Loss of Control

Anxiety

Irritability

Shattered Identity

Sleep Difficulties

Family Conflict

Sexual

Dysfunction

Short Fuse

Isolation

Impulsivity

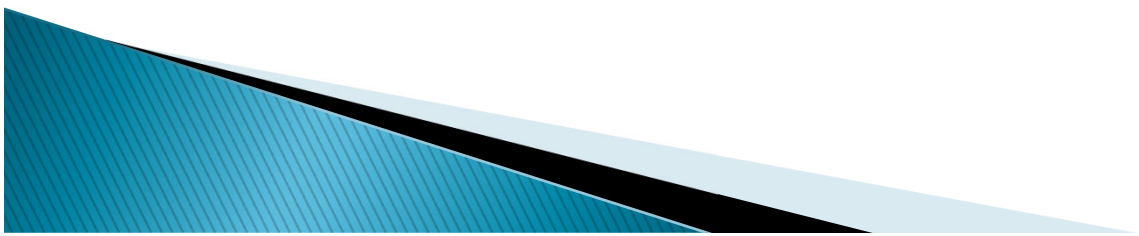
OCD

Egocentrism

Loss, Loss, Loss

Role Changes

PTSD



Reasons For Emotional Adjustment Issues

1. Organic
2. Reactive

Both can respond to the use of **Coping Strategies**

Important to consider use of **Medications**

- Cognitive enhancing
- Anti-depressants or anti-anxiety
- Mood stabilizers
- Atypicals for thought flexibility

Depression and MTBI: Brain Structure Differences

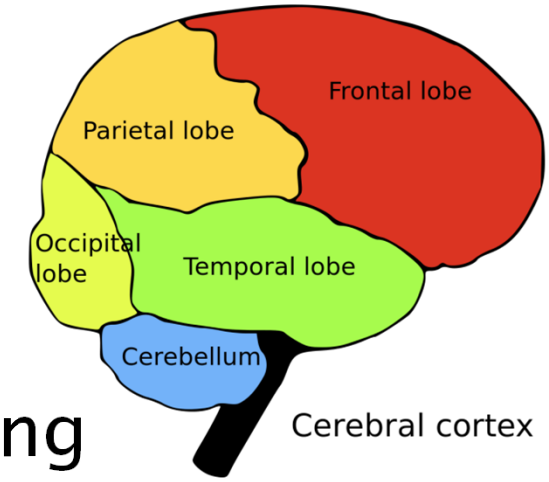
- Tested two groups of post-concussion patients: 45 reporting psychological issues like irritability, depression, and anxiety, and 29 with no reported mental ailments.

- Noticeable differences in the brain structure of the two groups. Depressed post-concussion sufferers had decreased functionality of the white matter surrounding an area near the deep gray matter of the brain that is strongly associated with the brain's reward circuit

- Concussion-related anxiety was linked to the impaired functioning of white matter in an area of the brain called the vermis that is believed to be involved in the regulation of our fear responses.

(Alhilali, L, Delic J, Gumus S, et al. Evaluation of White Matter Injury Patterns Underlying Neuropsychiatric Symptoms after Mild Traumatic Brain Injury. *Radiological Society of North America*. 2015)

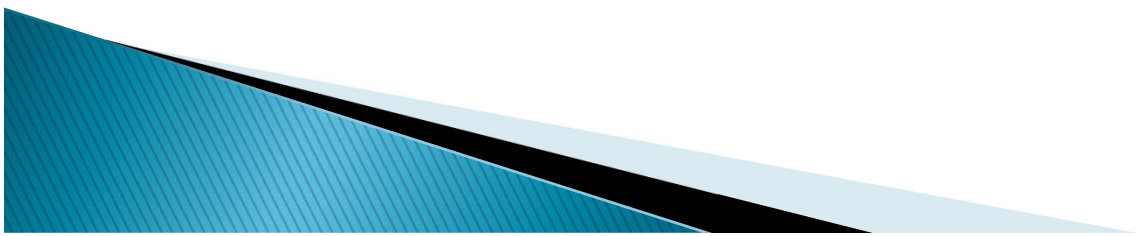
Frontal Lobe Injury



- Very common in Brain Injury
- Impaired organization and planning
- Decreased understanding of consequences of behavior
- Poor awareness
- Impulsive: trouble putting on the BRAKES
- “Lose Tact”
- Disinhibited
- Rigid thinking, “Getting Stuck”
- Limited acceptance of feedback

Common Emotional Issues

- Difficulty recognizing emotions in self and in others
- Decreased empathy
- Mood swings or emotional lability
- Anger Control problems: injured part of the brain that regulates emotion and behavior



Emotional Reactions after Brain Injury

- Depression is most frequent
- Anxiety
- Obsessive compulsive disorder
- Post traumatic stress disorder
- Loss as a grief process

(Summarized by Roundhill, Williams, Hughs, 2007)

Depression after MTBI

Persistent efforts to manage speed of processing information are associated with depression (King & Kirwilliam, 2011)

MTBI patients were at risk for developing depression

- All MTBI should be screened for depression

(Schoenhuber& Gentilini, 1988)

Depression after MTBI

Concussed athletes who were depressed at injury, were 4.59 times more likely to be diagnosed with depression and 3.4 times more likely to have anxiety (n =17)

(Yang, Peek-Asa, Covassin & Torner, 2017)

Depression After TBI

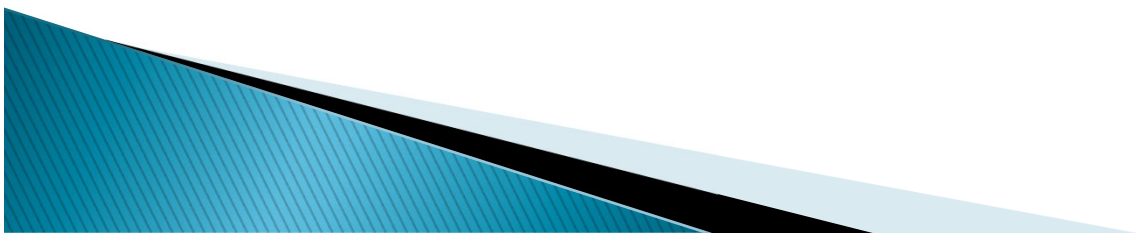
Common Reasons:

1. Relationship and family disruption

(Lezak, 1988; Brooks, Campsie, Symington, Eattie, McKinlay, 1987)

2. Unemployment and financial stressors

(Morton, Wehman 1995; Witol, Sander, Seek, Kreutzer, 1996)



Symptoms Of Depression

- Sad or Blue
- Guilt
- Anxiety
- Vegetative Signs
  - Change in appetite
  - Change in sleep
- Hopelessness
- Trouble Making Decisions
- Physical Symptoms
- ANHEDONIA
  - Inability to experience pleasure

Depression and MTBI

Depression may have a role in "producing, exacerbating, and maintaining PCS-like symptoms"

Clinical depression and post concussion syndrome share symptoms (moody, fatigue, irritability, frustration tolerance, insomnia, cognitive)

(Trahan, Ross, Trahan, 1999)

Depression after MTBI

Incidence of suicide was increased relative to the general population for concussion patients (n= 126,114)

(Teasdale and Engberg 2001)

Reviewed medical records of 235,000 diagnosed with concussion over 20 years

found a suicide rate " three times the population norm" in those who had had concussion.

mean time: 5.7 years

(Redelmeier, 2018)

Anxiety

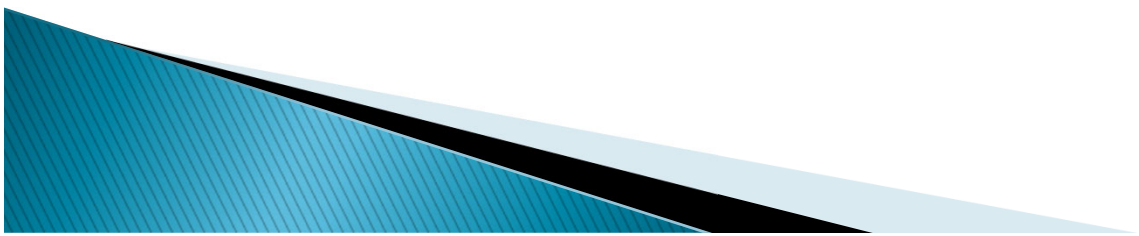
Uncertainty About the Future

Panic Attacks

Post-Traumatic Stress Disorder

Response to Overwhelm

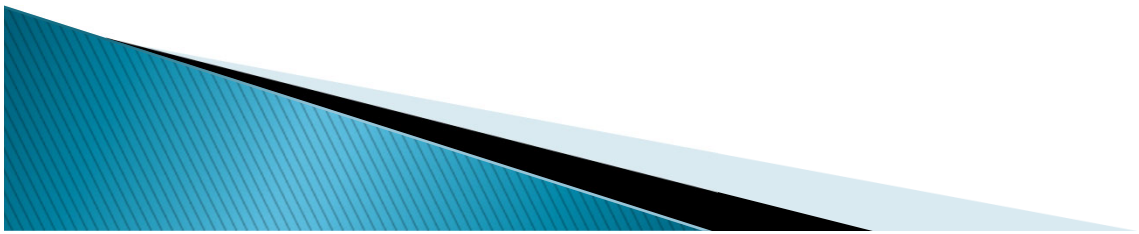
Obsessive Compulsive Disorder



MTBI and Anxiety

- MTBI "plays a notable role in the emergence and expression of anxiety"
- ALSO anxiety may have a "pronounced impact on the prognosis and course of recovery"

(Moore, Terryberry-Spohr & Hope, 2005)



MTBI and PTSD

PTSD and MTBI are mutually exclusive. "Highly unlikely that MTBI patients develop PTSD symptoms." (Sbordone & Liter, 2009)

BUT EXPERIENCE DIFFERS:

MTBI patients can present with PTSD related to the trauma of their injury:

Prison guard attached by inmate

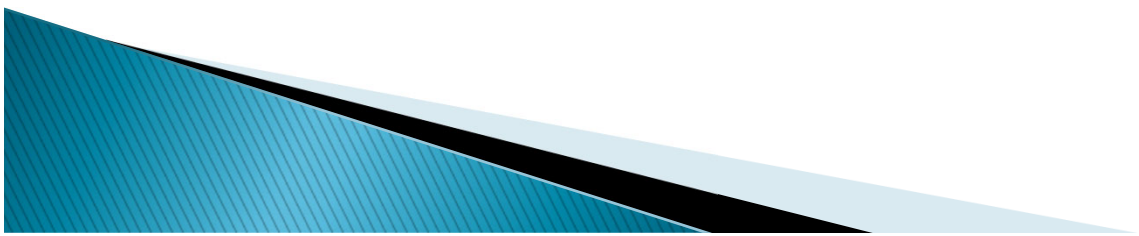
Worker in head on crash whose sister was previously killed in a head on crash

PTSD

- Intrusive recollections of the traumatic event
- Nightmares or flashbacks
- Hypervigilance
- Phobic or startle reactions
- Re-experiencing, become upset when exposed to stimuli associated with event.

MTBI and Emotional Issues

CHRONIC PAIN
SUBSTANCE ABUSE
FAMILY DISRUPTION
JOB LOSS OR CHANGE
CHANGE IN SOCIAL ACTIVITIES

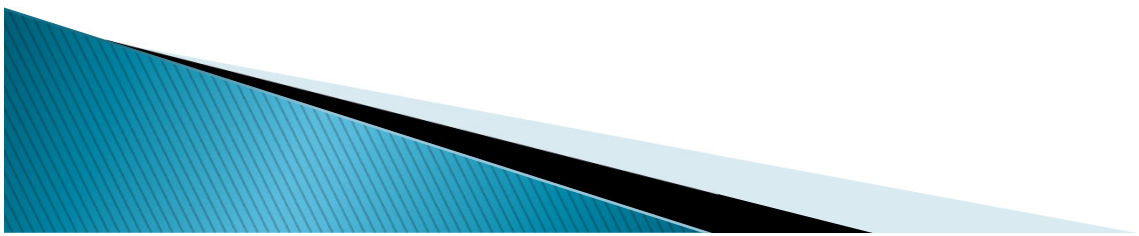


PROLONGED RECOVERY FROM MTBI
WHY SOME AND NOT OTHERS?

Not all homes in a Class 3 Hurricane suffer the same damage.

Prolonged Recovery: Drama vs. Disability?

The nature of a concussion/MTBI injury may lead to confusion in others. The patient "looks fine" and because they may seem emotional, there can be a conclusion that symptoms are being magnified, that the presentation is DRAMA rather than DISABILITY



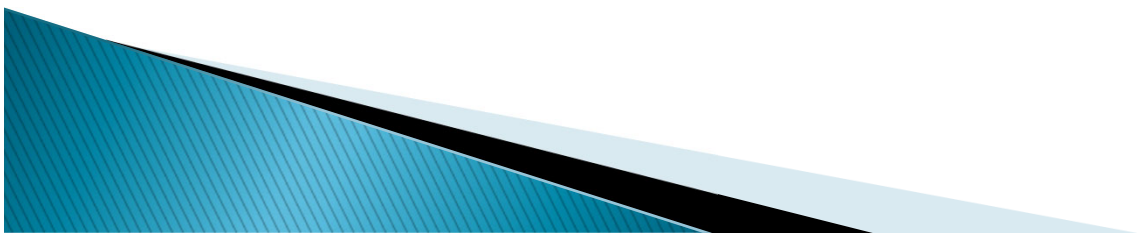
The Drama Set-Up

Systemic: failure to accurately diagnose or *validate* may increase emotional reactions

"When a person with a mild TBI suddenly finds himself forgetting things, making errors, taking longer...disorganized, irritable, and getting into conflicts with others and is told by professionals that there is nothing wrong...can be more debilitating than the primary, neurological deficits that fuel it (Kay, 1992)

Prolonged recovery

- Underestimate severity of injury; neurotrauma itself not evident on testing
- Concurrent dementia
- Headache
- Pain
- Insomnia
- Medication side effects
- Prior concussions
- Pre-existing psych or personality issues
- Injury circumstances



Prolonged Recovery

Post injury psychiatric factors such as depression, anxiety disorder/PTSD, conversion disorder

Compensation/litigation **

Overachievers

Substance abuse

Age: neurological resiliency

SES: "roar of the subtle" (some complex roles are harder to resume)

Vestibular disorder

Prolonged Recovery from MTBI

- Investigated risk of developing post concussion syndrome at 3 months post injury

- Risk factors identified:
  - female
  - poor social support
  - elevated depression reported at 1 month
  - major depressive disorder or PTSD

(McCauley, Boake, Levin, Contant & Song, 2001)

Prolonged Recovery from MTBI

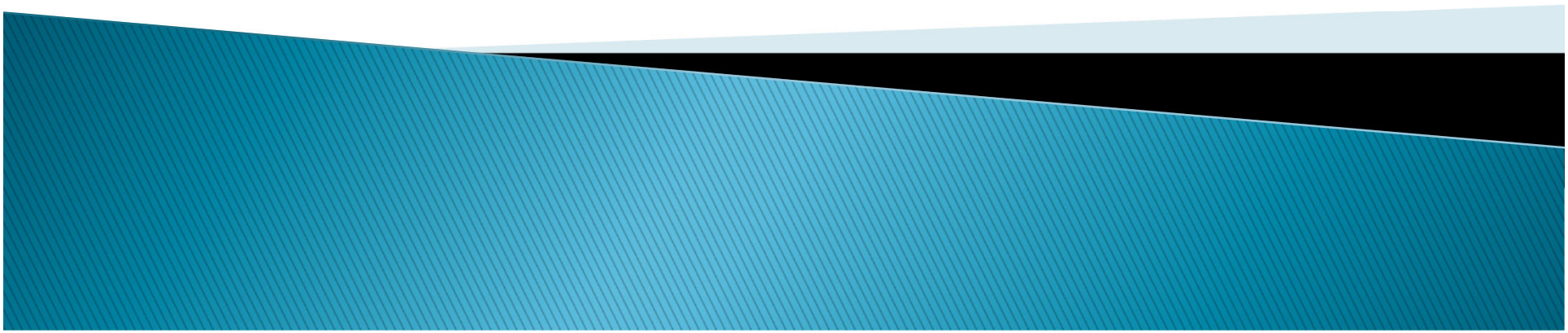
- Some researchers have suggested that PTSD may account for the long term effects of post concussion syndrome

Prolonged Recovery: Living in the basement /Impact of Vestibular Symptoms

- Dizziness present in 25-30%
- Vision problems present in 19%
- Associated headache, memory, sleep problems
- Anxiety in 45%; avoidance and safety-seeking lead to physical inactivity, "contributes to psych distress or withdrawal"

(Gurr & Moffat, 2000)

COPING: FOCUSING ON WHAT YOU CAN CHANGE



COPING: Attitude Is Important

GOAL IS TO ACHIEVE <u>ACCEPTANCE:</u>
FOUNDATION FOR MOVING FORWARD

Know resistance can increase symptoms

Acknowledge anxiety, depression and the complicating role they play

Coping: Attitude is important

Negative MTBI perceptions, stress, anxiety, depression and *all or nothing behavior* were associated with the risk of Post Concussion Syndrome.

(Hou, Moss-Morris & Preveler, 2012)

COPING: Cognitive Behavioral Therapy

Counseling/Psychotherapy

Change the way you think and you will change the way you feel

Early CBT can prevent PTSD after a concussion (Bryant, Moulds, Guthrie & Nixon, 2003)

Cognitive Behavior Therapy

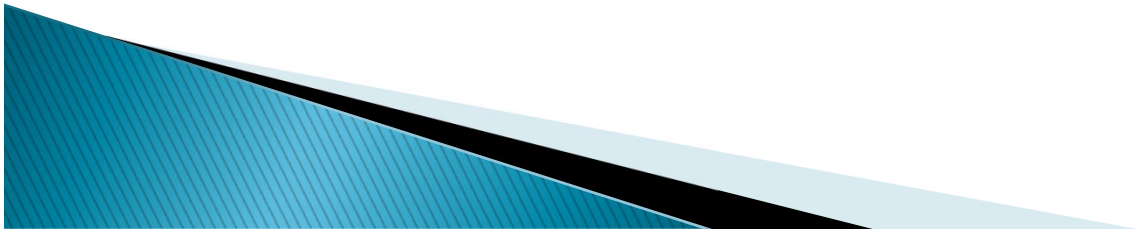
Examine the way you are thinking about a situation

and make positive changes:

- Catastrophizing
- Black and white thinking
- Jumping to conclusions
- Focusing on the negative (filtering)
- Blaming
- Needing to always be right

Cognitive Behavior Therapy: Thought Record

Situation	Emotion	Negative Automatic Thoughts	Evidence/ Support	Evidence Not In Support	Alternate Thought
Talking to the CVS clerk	Anxious	He thinks I'm impaired because I am on these meds	He looked at the label on the bag	He sees many labels a day; he is just doing his job	I have the right to purchase my item. I am fine. He is being courteous.



Coping: Social Participation

- Risk of major and Minor Depression After Traumatic Brain Injury
- "with other predictors controlled, depression severity remained significantly associated with the level of societal participation at 1 year post TBI" (in all BI patients)

(Hart, Brenner, Clark, Bogner, Novack, Chervoneva, Richardson, Arango-Lasprilla, 2011)

COPING: Idealizing?

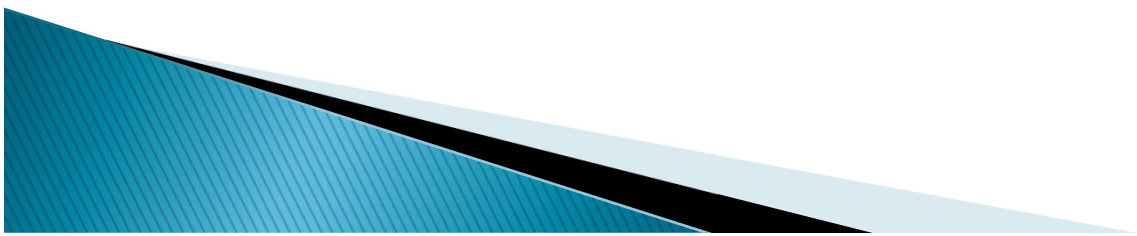
- MTBI patients underestimated the pre-injury existence of symptoms compared to controls
- Manage expectations; not all related to injury
- BEWARE the idealized view of pre injury self
- Beware the ROMANTIC (not accurate) view of self pre-injury; may increase focus on symptoms

(Mitttenberg, DiGiulio & Perrin, 2002)

LOSS

INCOMPLETE MOURNING

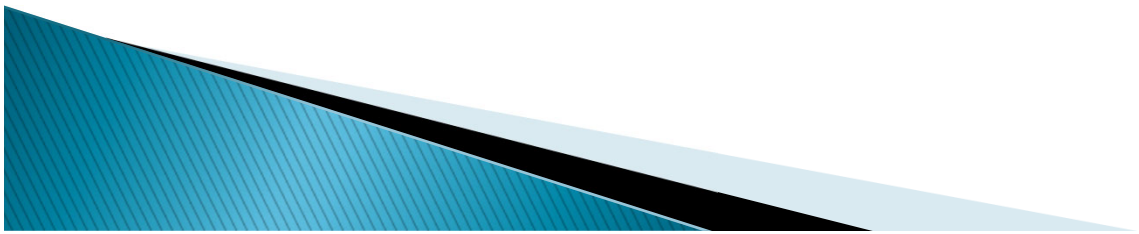
SOME PRESERVED SKILLS
CORE SELF IS THE SAME
YET I AM NOT ME



“Centrality of loss to TBI survivors”

- Grief or mourning what is lost is complicated after a brain injury
- Decreased cognitive skills can affect “getting your head around” the loss
- Lack of certainty about what has changed and what is preserved takes time
- “a private and intense experience”

(Coetzer and Cornay, 2001)



Coping with loss

- " but then my old self came in and said "come on, snap out of it" so I did…I just made that decision."
- "I've accepted it. Not happy about it but I can't change it"
- Keeping active is the only way you can do it…you've got to try to do something."
- "It was like an ending to my life. It ended and began again. It felt like my life that I was living..had ended. And that a different life had begun. .. I felt really sort of empty."

(Roundhill, Williams & Hughes, 2007)

Resilience

RESILIENCE as an important stress management tool

- emotionally stable
- positive outlook
- self regulatory skills
- social perception
- insightful ability to modify behavior
- problem solving skills

- (Kreutzer, Marwitz, sima, Bergquist, Johnson-Greene, Felix, Whiteneck & Dreer, 2015)

Enhancing Emotional Resilience

Internal Locus of Control

Fun/Humor

Self Nurturing

Perseverance

Optimism

Gratitude

Acceptance

Linked to fewer post-concussion and PTSD symptoms in military (Merrit, Lange, French, 2015)

Coping Strategies

:

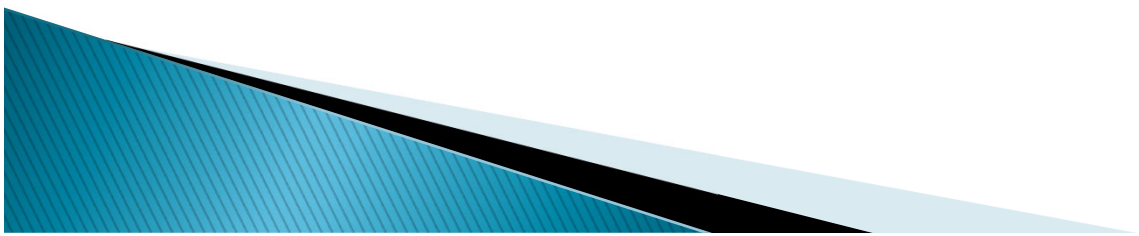
Coping strategies may influence presence of symptoms post concussion.

Coping strategies:

emotion focused: change unpleasant feelings by expressing emotions or seeking support. Self criticism or withdrawal. Associated with poorer adjustment and more complaints

Problem focused: manage stress by cognitive restructuring, avoid wishful thinking. Problem focused strategies are best

(Woodrome, Yeates, Taylor, Rusin, Bangert, Dietrich, Nuss & Wright, 2011)




ANXIETY
Focus on PAST
WORRY ABOUT FUTURE
MINDFULNESS
stay in the present

COPING: Mindfulness

INGREDIENTS:

1. Slow, long breaths: breathe in through the nose and out through the mouth. Count the breaths: 1,2,3,4 and 1,2,3,4 etc
2. Focus on physical experience: eg rise and fall of chest
3. Let go of distracting thoughts

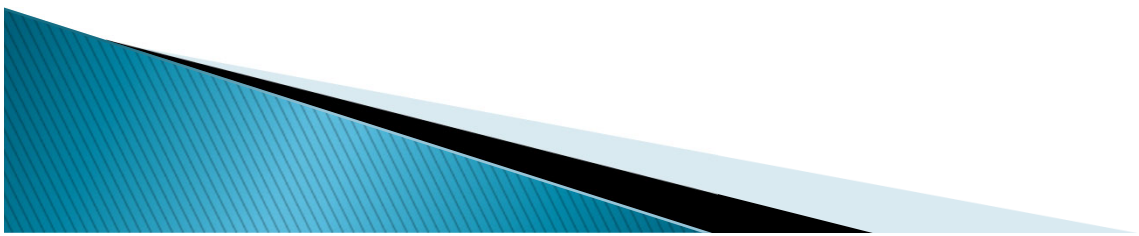
Watch a leaf floating down the river and away

Awareness of Emotions

1. Mindful breathing
2. Describe how you are feeling
3. Label the emotion and “stay with it”

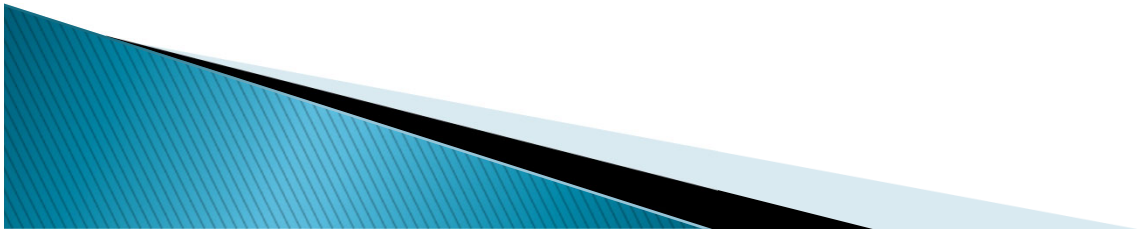
This allows increased sense of control over feelings. Allow the emotion to decrease.

Watch a leaf floating down the river and away



Emotional Regulation

- Your feelings are valid!
- Emotion-driven actions can be destructive
- They also intensify the feelings
- OPPOSITE ACTION HELPS REGULATE AND CHANGE FEELINGS



Emotional Regulation

- EMOTIONAL EXPOSURE: face your emotions
- Keep a log to become aware

EVENT	Emotion	Response	Coping Response
I was not invited to a dinner	Hurt, angry, rejected	Criticized the person; changed the subject	Called someone and invited them to dinner
Called my friend and she was too busy to talk	Angry, rejected	Sent her an email and said don't bother.	Waited a day and called to apologize
		(McKay, Wood, Brantley, 2007)	

SWAPS: Structured Problem Solving

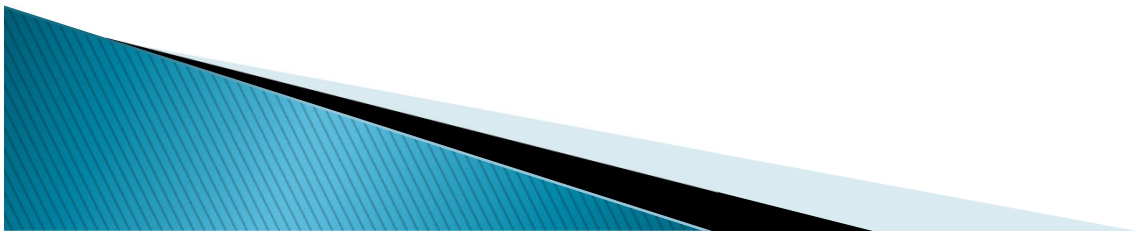
- Stop! Is there a problem?
- What is the problem, and should I try to solve it?
- Alternative solutions- what are they?
- Pick and Plan
- Satisfied with the plan or the outcome?

(Cantor J, Ashman T, Dams-O'Connor K, et al. Evaluation of the short-term executive plus intervention for [illegible]ecutive dysfunction after traumatic brain injury: a randomized controlled trial with minimization. [illegible] Phys Med Rehabil. 2014)

Behavioral Strategies

1. Prepare: schedule, outline, items (sunglasses, earplugs, notepads)
2. Escape Plan
3. Pacing
4. Awareness of symptom triggers: Plan
5. Revise goals (Acceptance)
6. Have someone to talk to

(Concussion Legacy Foundation)



Ways to Support Recovery

- Comprehensive evaluation
- Be assertive with healthcare providers regarding symptoms and needs
- Understand everyone is different in terms of recovery
- Become devoted to REST and PACING!
- Follow good sleep hygiene
- Avoid alcohol or illegal drug use
- **Acknowledge anxiety, depression and the complicating role they play**
- Acceptance: address loss, the “shaken self”

Ways to Support Recovery

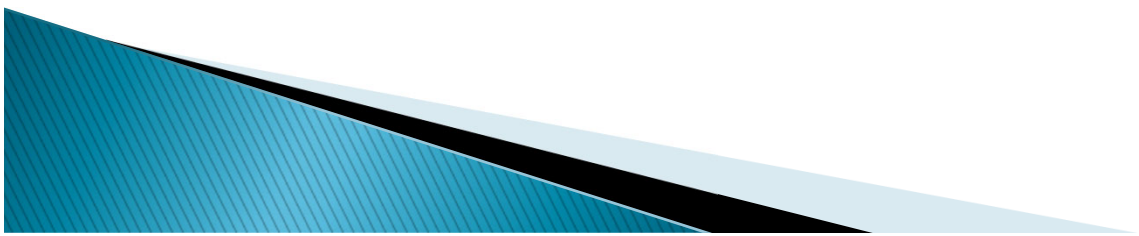
- Consider medications:

  cognitive enhancing meds (adderal, ritalin)

  anti-depressants and anti-anxiety meds

  mood stabilizers

  atypicals for thought flexibility



Ways to Support Recovery

- Use systems and strategies the therapists told you about!
  - avoid crowded situations (shopping)
  - reduce stimulation (face the wall)
  - acceptance of limits results in accomplishment of goals
  - use of timers, planners, whiteboards
  - exercise
  - structured activity

Ways to Support Recovery

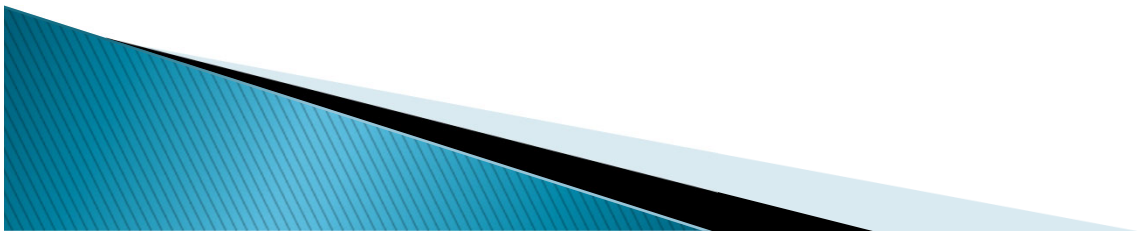
- Surround yourself with supportive people

From Brainline: People who……

Let me be myself without judgment
Loved the new me
Showed me a kindly way of doing a task more efficiently
Took up the slack so I could have quiet time

Who am I now

- IDENTITY RESOLUTION
- Connect to your CORE SELF
- How can you re-build?
- What gives you meaning?
- What is your focus
- How do you use your strengths?
- Uncertainty? PLAN
- The “New Normal”
- I AM ME



Travel Hopefully (but with limited baggage!)