Sobering Thoughts about TBI and Substance Abuse

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Scope of the problem…TBI

• 1.6 million a year
• 3.1 million now living with a TBI
• 20% of our 1.8 million soldiers who recently served have sustained a TBI
• Untold others who suffered “shell shock” in previous wars
Direct costs and indirect costs such as lost productivity resulting from a TBI totaled an estimated $76.5 billion a year.

Lifetime cost

- Severe: > $3 million+
- Moderate: > $1 million+

National Centers for Disease Control
Whatever the cost is each year:

*13% is for new injuries

*25% for ongoing care

*63% is related to costs such as lost productivity
Scope of the problem… Substance abuse

- 120,000 users of “hard” drugs in the US:
  - 51,000 Opioids
  - 4,300 Cocaine
  - 3,800 Amphetamines
- Deaths from drug use 43,982 (CDC 2013)
- 16.6 million adults
- Alcohol related deaths 88,000 (NIH 2013)
- Cannabis… 0 reported deaths (CDC 2013)
The National Institutes on Drug Abuse estimates the yearly cost of substance abuse in the US at:

$480,000,000,000 a year!
TBI/Substance Abuse

So let’s consider:
• The identified survivor
• The prison population
• The homeless
• The military
• Wow! Who else?
"TBI is defined as an alteration in brain function, or other evidence of brain pathology, caused by an external force."

biausa.org 2010

(Adding mind-altering substances to an already altered brain...just can’t be a good thing)
Inmates and TBI

• In various studies of prison populations anywhere from 25% to 87% of inmates reported at least one previous TBI

• In a study of 13 adolescents residing on death row in US prisons, only one common factor was revealed... all had some history of TBI!
Women in prison

- One study looked at women incarcerated for violent crime and found them more likely to have suffered a brain injury from domestic abuse prior to their crime.
- 90% of all injuries caused by domestic violence involve the neck and head.
- 48 – 87% are substance abuse related.
It is estimated that nearly half of all individuals experiencing homelessness, and 70% of Veterans experiencing homelessness, suffer from substance abuse issues.
Long-term Costs

“In studies of survivors who were several years post injury, many were depressed, placing a significant burden on caregivers...usually the family. The rate of suicide was higher than the national average.”

Of the 700,000 returning vets currently in the VA system, at least 1 in 5 are depressed.
Wounded Warriors

- New screening-old problem
- Mild brain injuries from concussive events…360,000 at last count…
- 45-90,000 needing long term care

Just the tip of the iceberg (over 25,000 in 2014)
Military Use and Abuse

- 1 in 4 soldiers now admit that they have a substance abuse problem
- Prescription drug abuse doubled by 2005 and then tripled by 2010
- 6 months after deployment 27% meet criteria for alcohol abuse
- Alcohol is related to more than 30% of all suicides and 45% of attempted suicides
Old saying…

“If you deal with brain injuries…you deal with behavior.”

Now add alcohol to the mix…
Skull – Brain Protection (our helmet)
Auto accident, motorcycle, bicycle, fall, explosion, football
Followed by Swelling
Skull—Brain protection
Location of increased damage due to swelling
Frontal area

Gyrus, Cingulate

Tract/Nerve

Stria Medullaris

Ventricle, Fourth Ventricles, Interventric. For., Cereb. Aqueduct

Landmarks
Pons, Pineal Gland, Cerebellar Cortex, Medulla Oblong, Sup. Medullary Velum
Most common part of the brain to get hurt is…?

Frontal Lobes!
What’s the big deal about the frontal lobes?

Your frontal lobes are the boss of you…!!!
What’s the big deal about frontal lobes?

I have described them as the:
- Boss
- Case Manager
- Air traffic “control center”
- The Conductor

Elegance out of chaos
The frontal lobes…Just add alcohol (control?)

Bill at work

Bill at Christmas party
Frontal Lobes and Alcohol  (lost control?)

Bill at work

Bill after the party
Talk about control!...What if a mild TBI takes control away?

70% of all TBI’s are considered “mild”…Ask someone who’s life has been turned upside down by a “mild brain injury” and they will tell you there is nothing mild about it!
Common symptoms:

- Attention/Concentration
- Short term memory
- Slowed thinking
- Poor organization skills
- Disconnected—"Foggy"
- Fatigue—physical and cognitive
- Lack of initiation and apathy
- Anger/frustration and aggressive behavior
- Paranoia/Anxiety—fear of going crazy
- Substance abuse
- Sleep disturbance
- Poor self esteem
- Headaches, back and neck pain
- Sensory issues—vision/hearing
Secondary Consequences

Unanticipated consequences of the injury that was… “just a bump on the head” or “had his bell rung”

- Unable to return to work, or active duty
- Try to return to work or active duty, but fail
- Family, friends, peers and medical professionals do not understand
- You look the same, but are the not same
- Normal relationships deteriorate…
- Increased isolation and substance use
Secondary Consequences

- Increasing disconnect from your “normal”
- Pain, anxiety, etc. often equal increase in medications
- Medications often equal further decrease in cognitive function
- “Patient” “Wounded Warrior” status slowly replaces “worker,” “soldier,” “father,” “husband,” “friend,” “comrade”
- Increasing frustration—more disconnect
Secondary Consequences

- Increasing loss of sense of self, spirit, heart, character, purpose
- Increased need to mask symptoms of depression or PTSD
- Increased likelihood of turning to drugs and alcohol to deal with all of the above…
Mild TBI…But…

- It was just a bump, a bang, or a thud!
- I was up and walking in no time!
- Nothing broken!...no limbs lost!
But look at me! My world is falling apart.

What just happened to me?
What happened to me? It was only a bump…or a boom!

Day Of Injury

Recovery Timeline

Sense of Self

Symptoms

Neuro Damage
Common Consequences of MBI

Common Symptoms
- Attention/Concentration
- Short term memory
- Slowed thinking
- Poor organization skills
- Disconnected—“foggy”
- Fatigue—physical and cognitive
- Lack of initiation and apathy
- Anger/Frustration and aggressive behavior
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Common Symptoms

Mild Brain Injury
- Attention/concentration
- Short term memory
- Slowed thinking
- Poor organization skills
- Lack of frustration tolerance
- Disconnected—“foggy”
- Fatigue—physical/cognitive
- Lack of initiation and apathy
- Substance abuse
- Paranoia/Anxiety—going crazy?
- Sleep disturbance
- Poor self esteem
- Headache
- Back and neck pain
- Sensory issues

Depression
- Attention/Concentration
- Short term memory
- Slowed thinking
- Poor organization skills
- Lack of frustration tolerance
- Disconnected
- Lack of initiation and apathy
- Fatigue—physical/cognitive
- Substance abuse
- Am I crazy?
- Sleep disturbance
- Poor self esteem
- Confusion
- Exaggeration of symptom
What happened to me? It was only a bump…or a boom!

Day of injury

 Sense of Self
 Symptomns
 Neuro Damage

Recovery timeline

Depression

Neuro Damage
“The presence of a psychiatric illness was associated with more than doubling the cost for both inpatient and outpatient non-mental healthcare.”

Health Costs

Negative emotions (unhappiness, boredom, loneliness, helplessness, depression) are strongly linked to diseases such as:

- Heart disease
- Cancer
- Auto Immune Diseases
- Ulcers
- Arthritis
- Alcoholism
Family crisis and our disappearing support system

Family crisis often provides the opportunity to move either toward greater family cohesion and mental health...or family deterioration and emotional decay.
Family trauma – Human cost 20 year study

2-6 months – most friends

1-2 years – siblings

1-5 year – Dad or Spouse

8-10 years – only Mom
It is gratifying to note that most survivors refrain from drinking for the first year following a traumatic brain injury.

However, half of those folks who used alcohol prior to a brain injury return to drinking by year two…

And 20% of survivors who never drank begin to use alcohol as well.
Alcohol adversely affects:

- Our control center (frontal lobes)
- Our brain’s ability to recover and heal
- Our physical and cognitive problems
- Our likelihood of seizures
- Our likelihood of re-injury
- Our emotional health (depression)
- Our likelihood of incarceration
Take control…get help!

Treatment options:

• Specialty TBI/substance abuse programs
  – (treatment facility locator…http://dasis3.samhsa.gov/)

• Cognitive/Behavioral therapy
  – (may incorporate Stages of Change Model)

• Adapted Mindful Meditation Program
  – (MBSR Mindfulness-Based Stress Reduction Programs)
Take control…get help!

12 Step Programs
• Seek treatment early
• Changes your peer group
• Changes your environment
• Uses reliance or a “higher power”
• Research local groups, seek advise from local rehabilitation providers and professionals
• Have a partner or companion to go with you
• Seek out a sponsor
Take control…get help!

- Prepare for the “gap” between programs for substance abuse and programs for TBI.
- Some TBI programs don’t allow for substance use and demand abstinence…or discharge.
- Some substance abuse programs won’t admit folks with TBI complications like occasional relapse or ongoing behavioral issues…or discharge!
- Look at…www.rethinkdrinking.niaaa.nih.gov take the test and think about it
What to look for in TBI program strategies

• A robust and program wide understanding of the functioning of the brain and brain/behavior relationships and substances
• Cognitive/Behavioral counseling and therapy
• A host of memory and organizational strategies (smart phone, Ipad, Day-Planner/Org, GPS etc.
• Augmentative, adaptive and compensatory strategies for long term success
• Activity…Activity…Activity…Physicality!
Program strategies:

- Physical activity (light aerobics, light strength training, tai chi, yoga, walking…with as many people as possible!)
- Anger mgt. strategies
- Stress mgt. (mindful meditation, deep relaxation, visual imagery)
- Pain mgt. (exercise, myofacial, cranial-sacral, massage, etc.)
- Medication mgt. (reduction where appropriate)
- When appropriate…12 Step programs
Preconceived Notions…Attitudes?

For Adults Only!
Preconceived Notions…Attitudes?

Marijuana
What will your mother say when she finds your corpse?

I tried pot once.
Now I’m GAY
Say No to Drugs.
Preconceived Notions…Attitudes?
Preconceived Notions...Attitudes?

"We have been terribly and systematically misled for nearly 70 years in the United States, and I apologize for my own role in that."

Dr. Sanjay Gupta
CNN Documentary
Preconceived Notions...Attitudes?

Marijuana IS medicine.

"Every 19 minutes somebody dies of a prescription drug overdose. It doesn't happen with marijuana."

Sanjay Gupta, MD
Neurosurgeon & Chief Medical Correspondent, CNN
As of August 2015 Medical use of cannabis is legal in:

- Colorado
- California
- Arizona
- Connecticut
- Alaska
- Delaware
- Illinois
- Hawaii
- Massachusetts
- New Jersey
- Michigan
- Vermont
- Rhode Island
- New Mexico
- Washington State & DC
Effective for:

- Seizures (Charlotte’s Web)
- Nerve Pain
- Glaucoma
- Multiple Sclerosis
- Nausea from Chemotherapy
- What else…?
Addiction Potential?

In the US... 1 overdose every 19 minutes from prescription drugs
0 cases of pot overdose reported
Not everyone is in favor... Chris Christie, President Obama, Jeb Bush,
Institutes for Health Addiction potential... medical risks and benefits

Needs more research

(Caution! ... $$)
In summary...

For your own good...

- Get education for all involved
- Get in control of your life
- Get moving!...Physicality!

Ideal treatment for Pain, Depression, substance abuse, anxiety…Etc.
Substance abuse resources and information websites

- Drugabuse.gov
- Samhsa.gov
- Drugfree.org
- Dpri.com
- Drugpreventionresource.org
- Drugfreeworl.org
Mild Brain Injury resources and information

• National Institute of Health (NIH)
• Center for Disease Control (CDC)
• The Brain Injury Association (BIAUSA)
• North American Brain Injury Society (NABIS)
• National Institute of Neurological Disorders and Stroke (NINDS)
Websites & Contacts

- Cdc.gov
- Hrsa.gov
- Nashia.org
- Ed.gov
- Edenalt.org
- Tbindsc.org
- Nih.gov
- Brainline.org
- Headinjury.com
- NeuroRestorative.com
- Biausa.org
- Bobthogan@neuro-consult@msn.com
- Pdhealth.mil/nl_signup.asp
Questions?

That's all Folks!