

Welcome



www.ResourceFacilitationRTC.com



Accommodations for TBI in the Mental Health and Substance Abuse, Criminal Justice, Education, and Vocational Settings

**John D. Corrigan, PhD, Professor
Department of Physical Medicine & Rehabilitation
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What If There's a Traumatic Brain Injury?



John D. Corrigan, PhD

Professor

Department of Physical Medicine and
Rehabilitation

Director

Ohio Brain Injury Program

Traumatic Brain Injury (TBI)

“...an insult to the brain caused by an external force that results in an altered state of consciousness and one or more impairments of brain functioning. Effects may be temporary or permanent.”

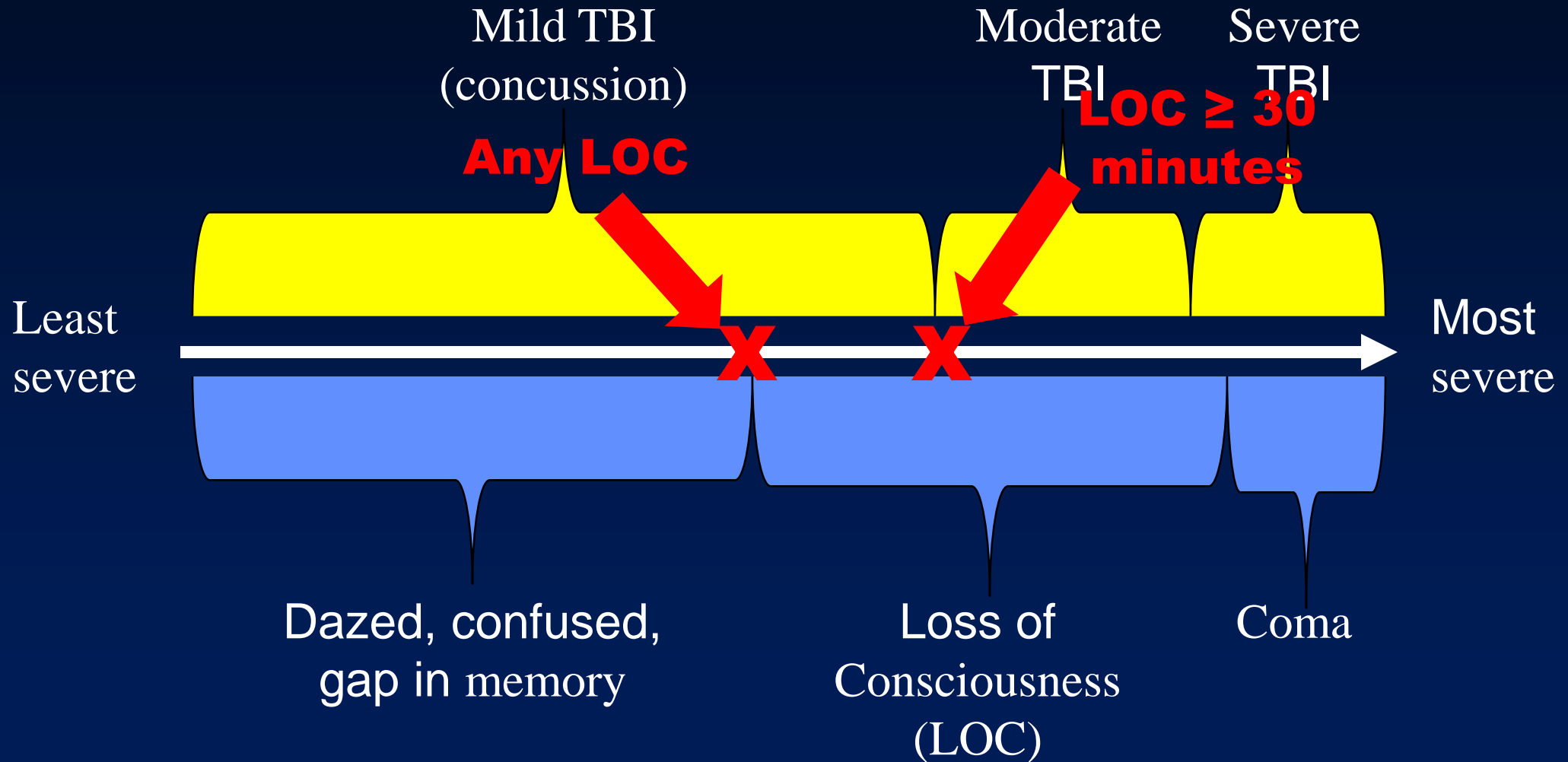
Poll Question*

TBI is...

- A. A life altering injury for survivors and their families, profoundly impacting the patient's functional status.
- B. A very common injury that is essentially inconsequential to the individual's functional status following recovery.
- C. Both and everywhere in between.

*Thanks D. Arciniegas & H. Wortzel for this slide

Continuum of TBI Severity



Not Just Severity of Injury

- Cumulative effects from multiple TBIs
 - number and/or spacing?

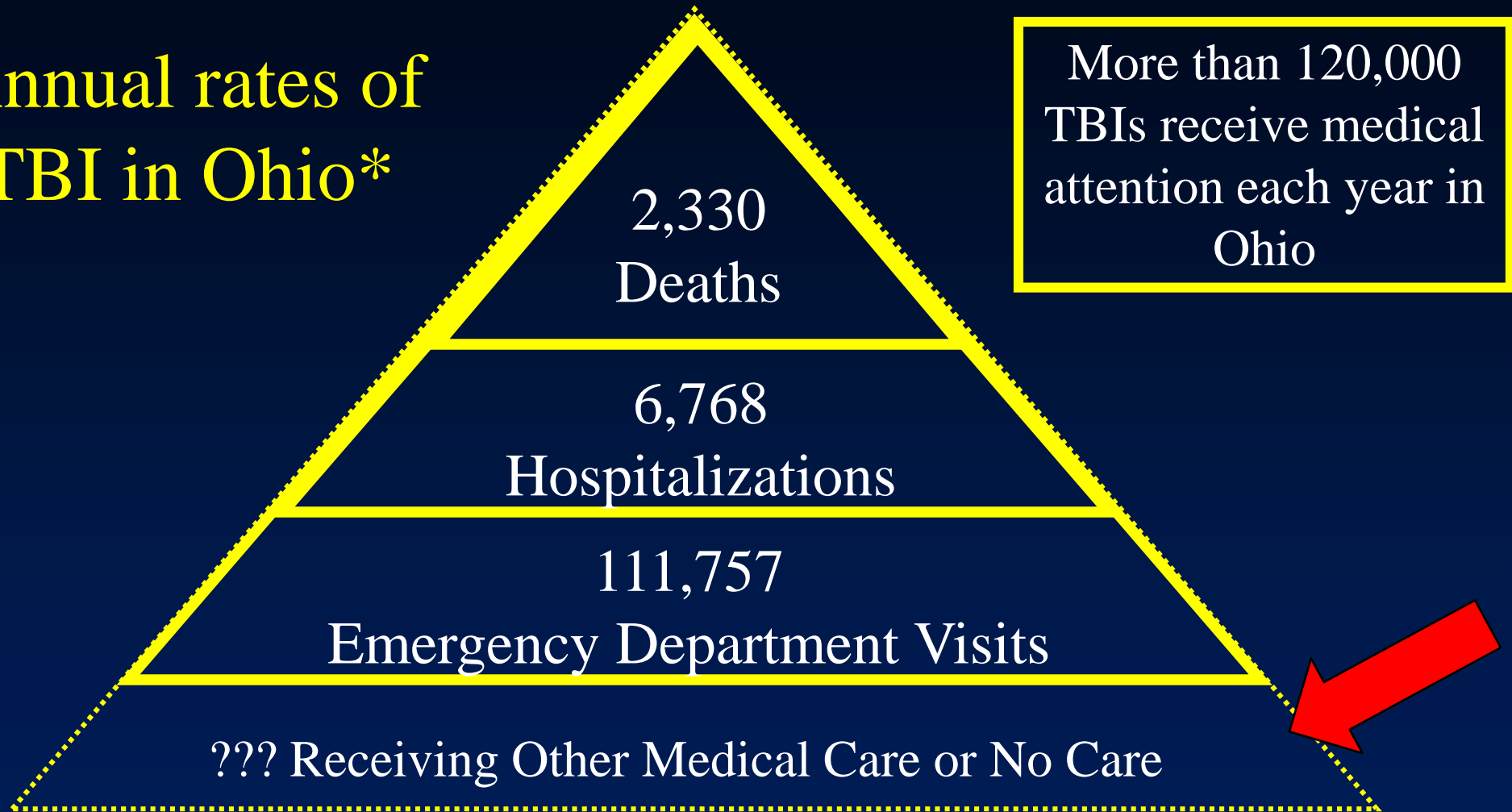
Groups Who May Have Multiple Mild TBI's

- Military personnel, particularly those with combat deployment in OEF/OIF
- Athletes, particularly boxers, football players & hockey players
- Victims of intimate partner violence and childhood physical abuse
- People who misuse and abuse substances
- Other vulnerable populations (e.g., psychiatric disorders, homeless, inmates)

Not Just Severity of Injury

- Cumulative effects from multiple TBIs
 - number and/or spacing?
- Age at injury
 - childhood but also with normal aging
- How recent
- When combined with other neurological conditions

Annual rates of TBI in Ohio*



* Ohio Hospital Discharge Data 2014

Annual rates of
TBI in Ohio*

2,330
Deaths

6,768
Hospitalizations

111,757
Emergency Department Visits

More than 120,000
TBIs receive medical
attention each year in
Ohio

??? Receiving Other Medical Care or No Care

* Ohio Hospital Discharge Data 2014

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* Ohio Hospital Discharge Data 2014

Lifetime History of TBI in General Population Surveys using Standardized Instruments

Colorado: CDC funded survey of 2,701 non-institutionalized adults. Conducted 2008-2010 using CATI of the OSU TBI Identification Method research version.

Ohio: State optional module included in 2014 BRFSS administered to 6,998 non-institutionalized adults. Used adapted OSU TBI Identification Method.

North Carolina: State optional module included in 2017 BRFSS administered to 3,769 non-institutionalized adults. Used adapted OSU TBI Identification Method.

Prevalence of TBI in the Adult, General Population

	Colorado	Ohio	North Carolina
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Prevalence of TBI in the Adult, General Population

	Colorado	Ohio	North Carolina
% with Any TBI	42.5%	n/a	n/a

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Prevalence of TBI in the Adult, General Population

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% with Moderate or Severe TBI	6.0%	2.6%	4.4%
% with Loss of Consciousness before age 15	6.7%	9.1%	12.2%*

* In North Carolina, before the age of 18

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% with Moderate or Severe TBI	6.0%	2.6%	4.4%
% with Loss of Consciousness before age 15	6.7%	9.1%	12.2%*
% either LOC < 15 or mod/sev TBI	11.5%	10.8%	?

* In North Carolina, before the age of 18

Lifetime History of TBI:

Any TBI

TBI with
LOC

Mod/Sev
TBI

Lifetime History of TBI:	Any TBI	TBI with LOC	Mod/Sev TBI
OEF/OIF veterans (Fortier, et al.) [including combat related]	32% [67%]	22% [38%]	4%

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Prisoners (*Shrioma et al; ** Bogner & Corrigan)	60%*	50%*	14%**

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SUD treatment (Corrigan & Bogner)	65%	53%	17%

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Psychiatric inpatients (Burg et al.)	68%	36%	20%
Homeless (*Hwang et al.; **Bremner et al., Solliday-McRoy et al.)	53%*	47%**	12%*

Why is TBI associated with
behavioral problems?

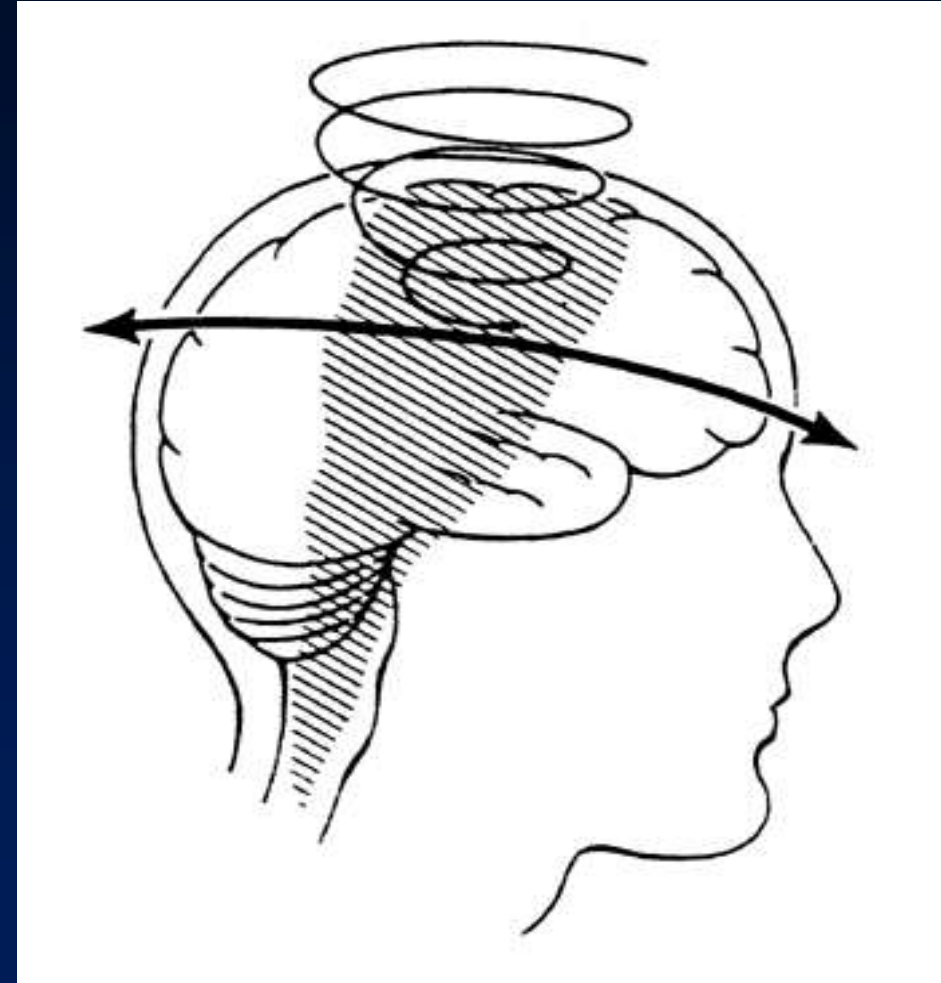
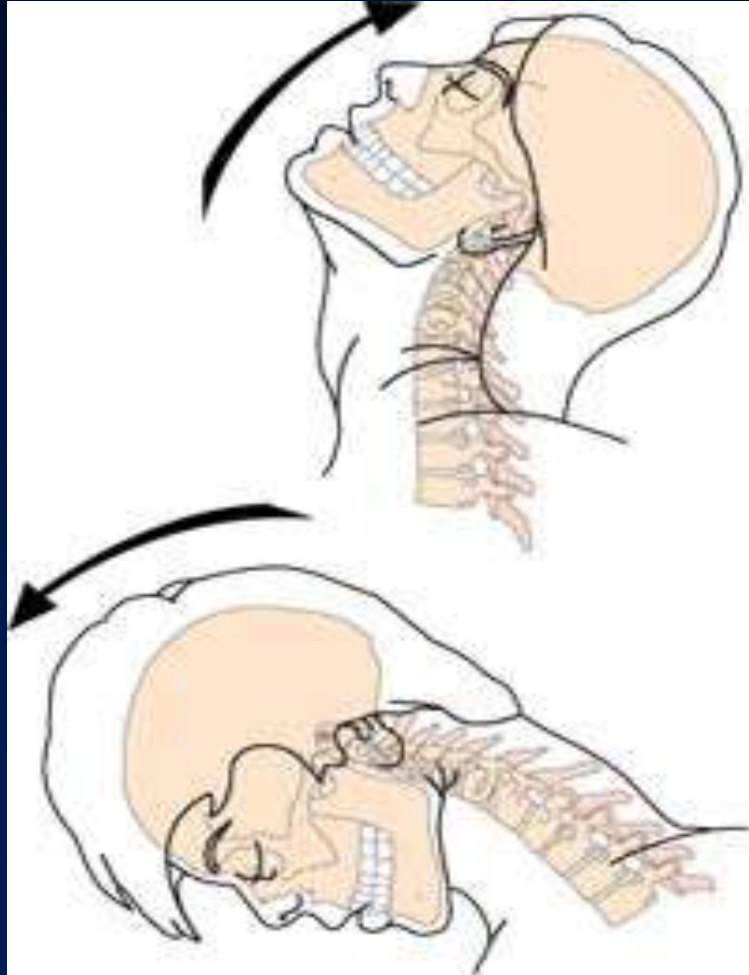
Three Sources of the Behavioral Problems Caused by TBI

- Pathophysiology—structural damage from TBI disinhibits behavior
- Neurobehavioral—TBI changes how we view rewards and consequences
- Developmental—early life TBI predisposes a person to behavioral problems

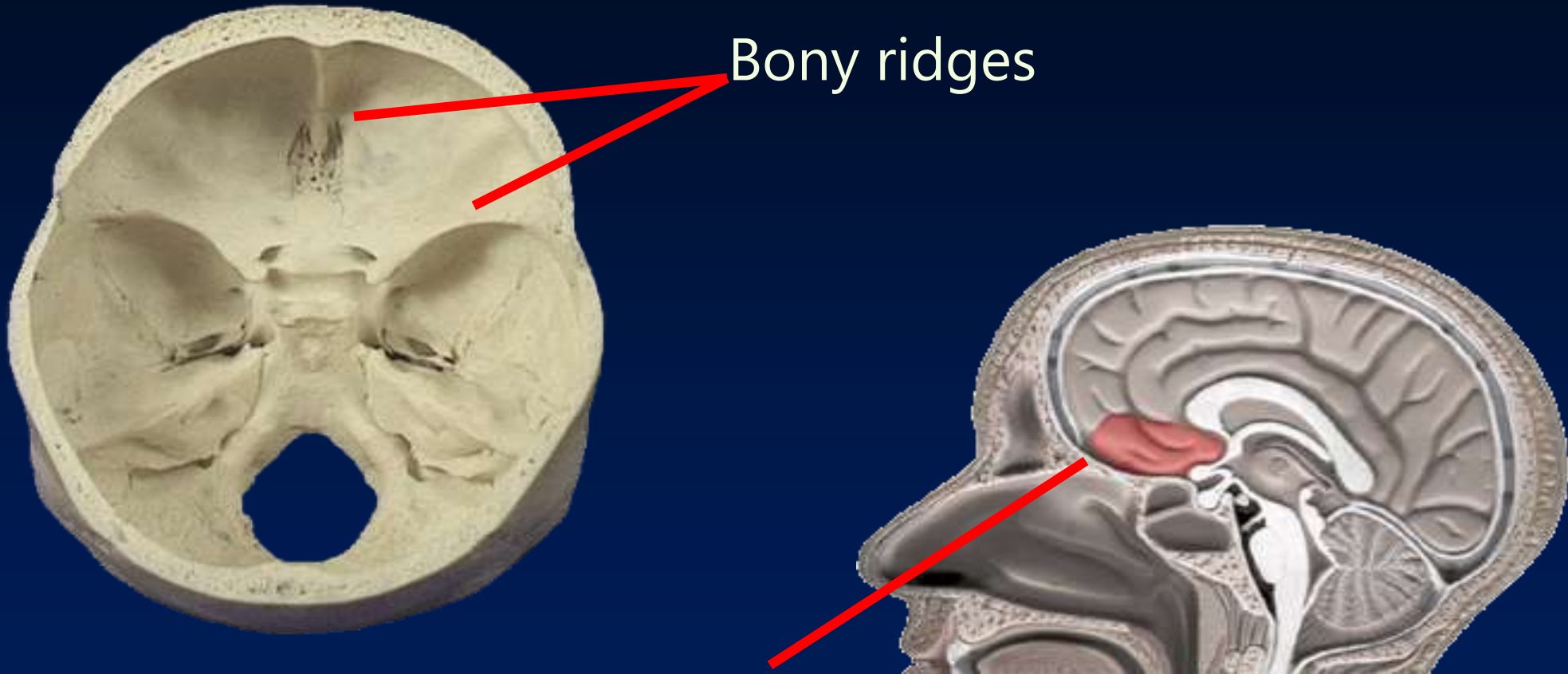
The “Fingerprint” of TBI

Frontal areas of the brain, including the frontal lobes, are the most likely to be injured as a result of TBI, regardless the point of impact to the head

The brain is set into motion along multiple axial planes

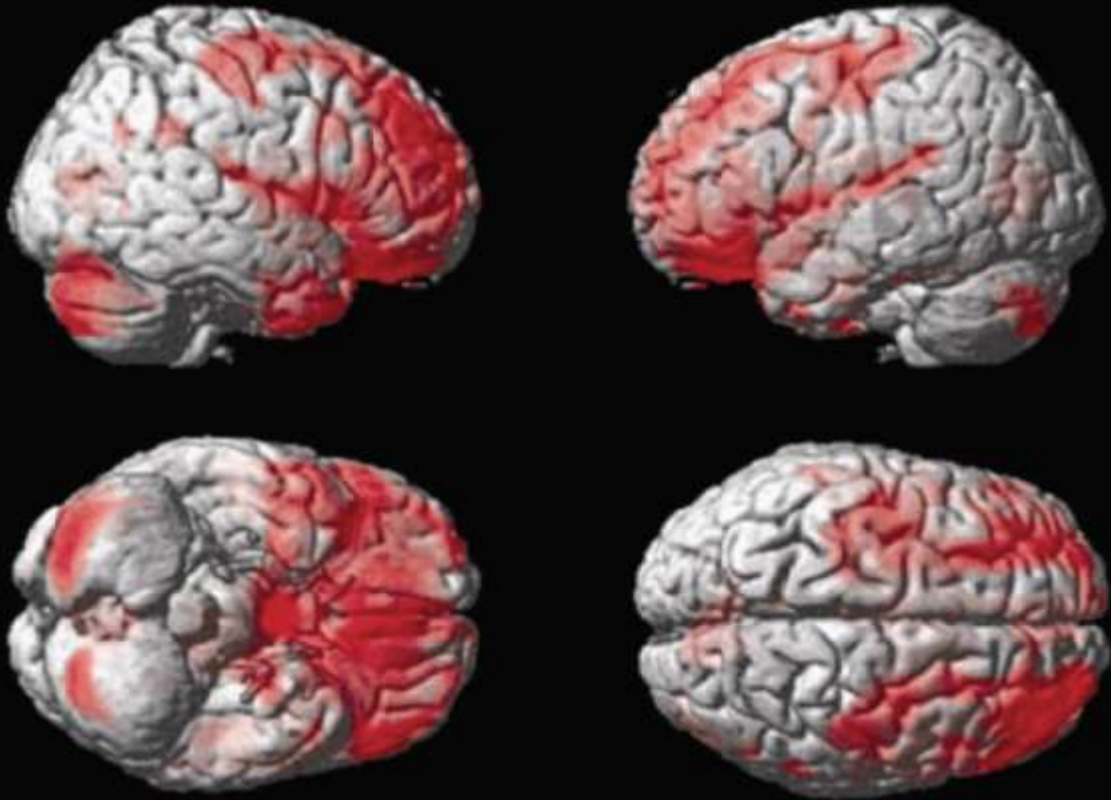


Interior Skull Surface



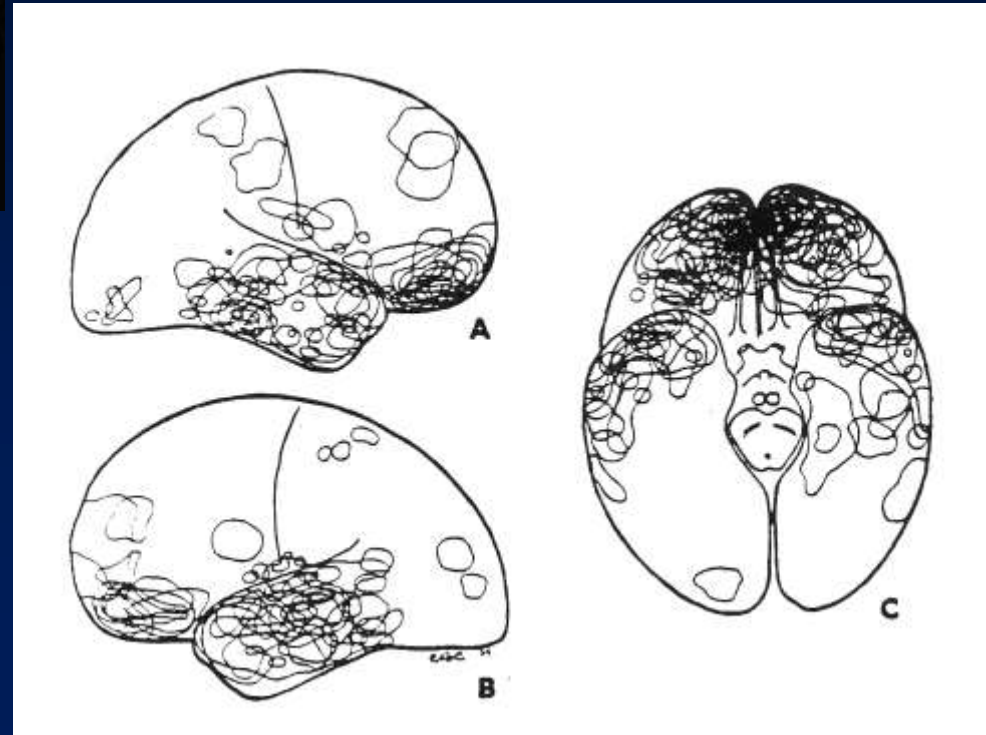
Bony ridges

Injury from contact with skull



Areas of contusion in
(Courville, 1950)

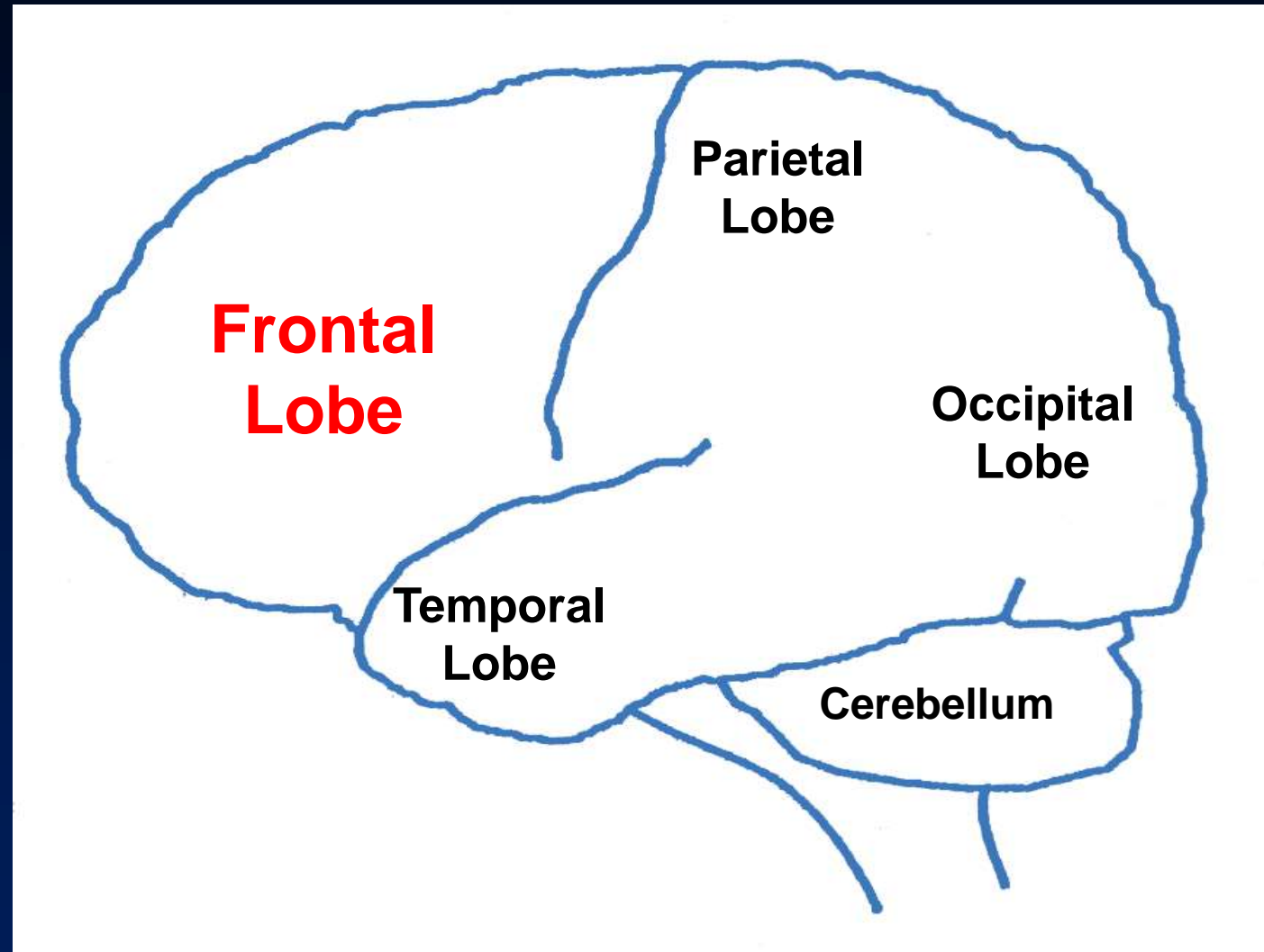
Loss of gray matter one
year post-injury
(Bigler, 2007)



Simplified Brain Behavior Relationships

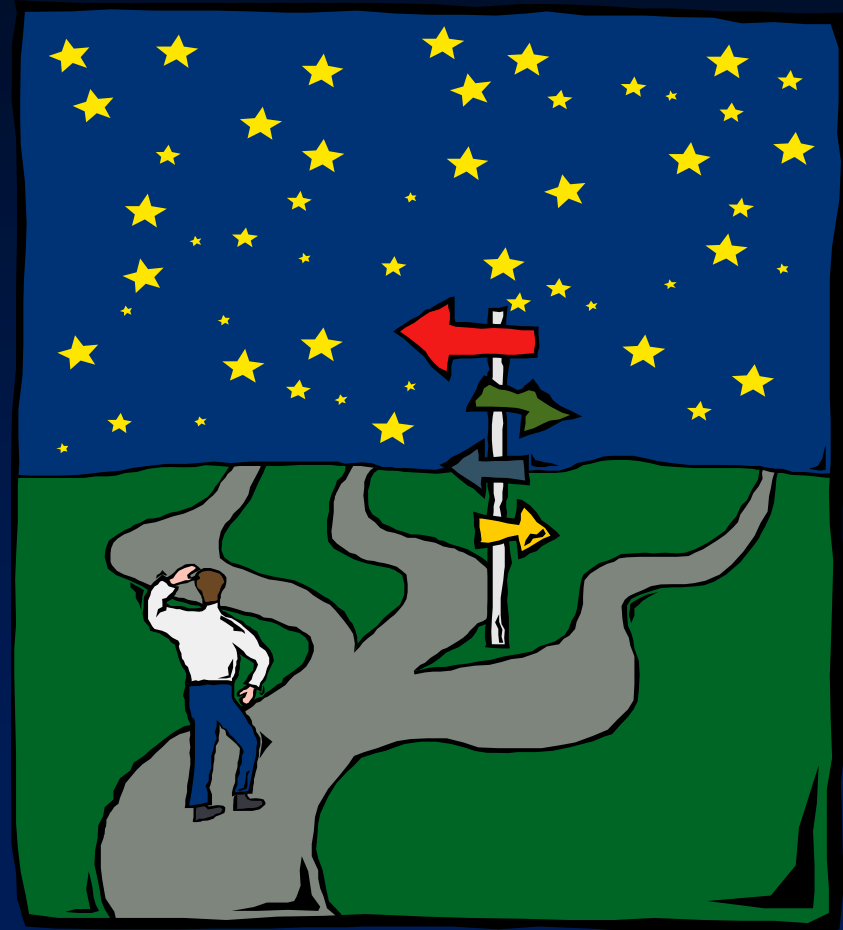
Frontal Lobes

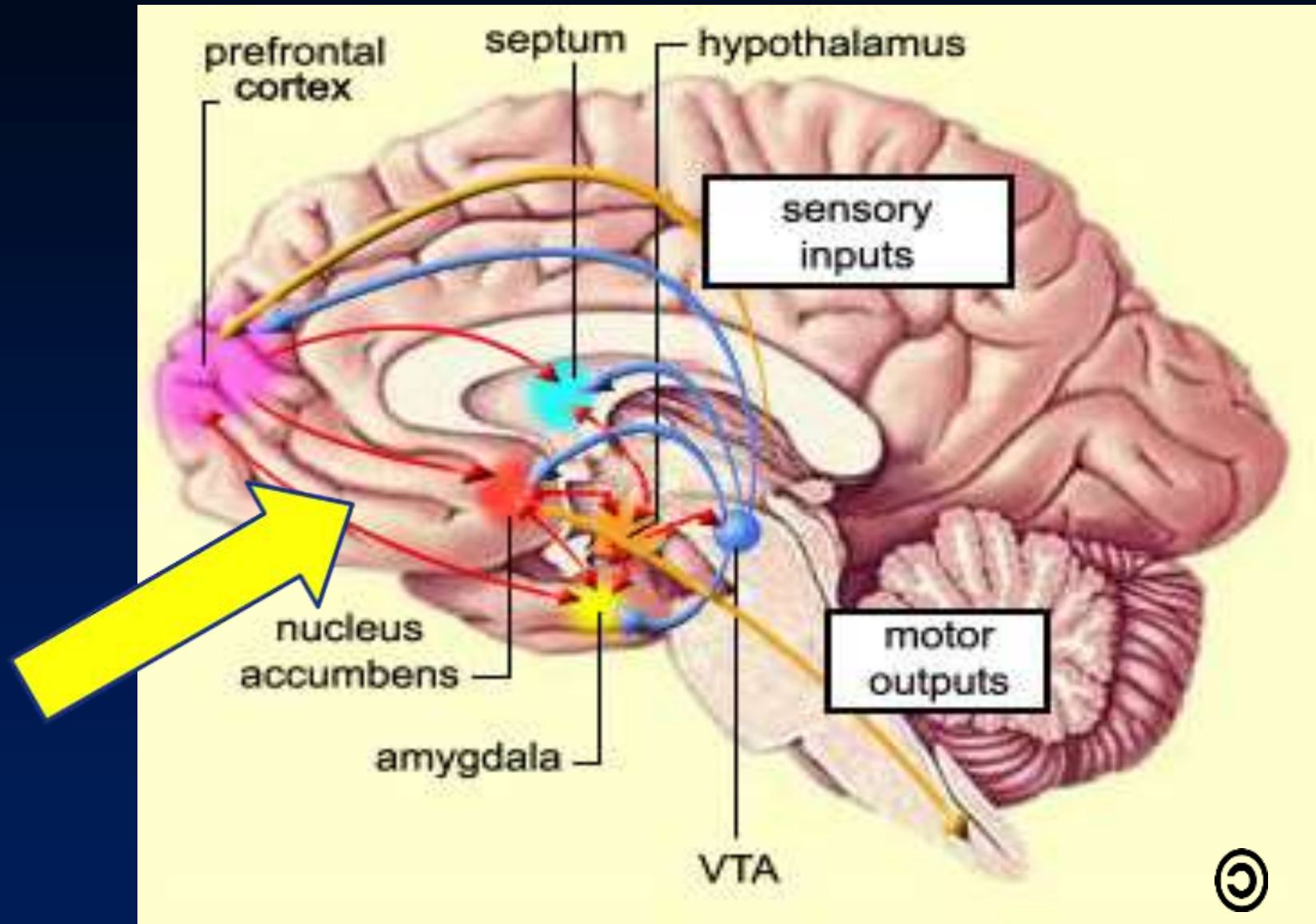
- Initiation
- Problem solving
- Judgment
- Inhibition of impulse
- Planning/anticipation
- Self-monitoring
- Motor planning
- Personality/emotions
- Awareness of self
- Organization
- Concentration
- Mental flexibility
- Speaking



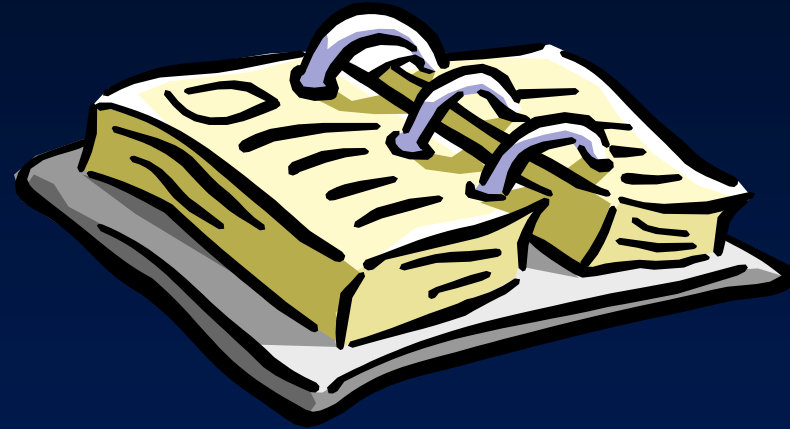
Neurobehavioral Contributions

Behavioral
problems as
disorders in
processing
rewards and
punishments

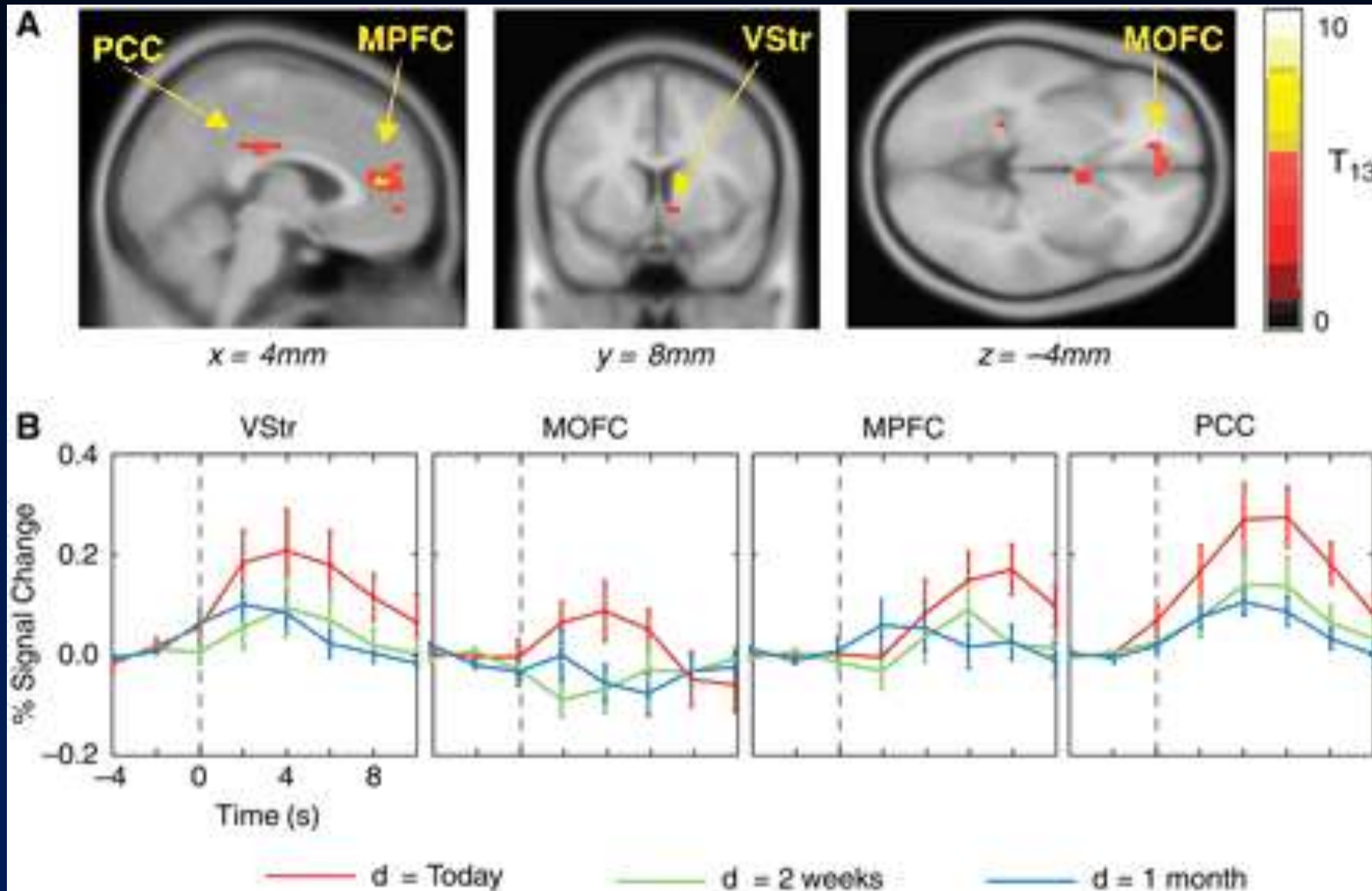




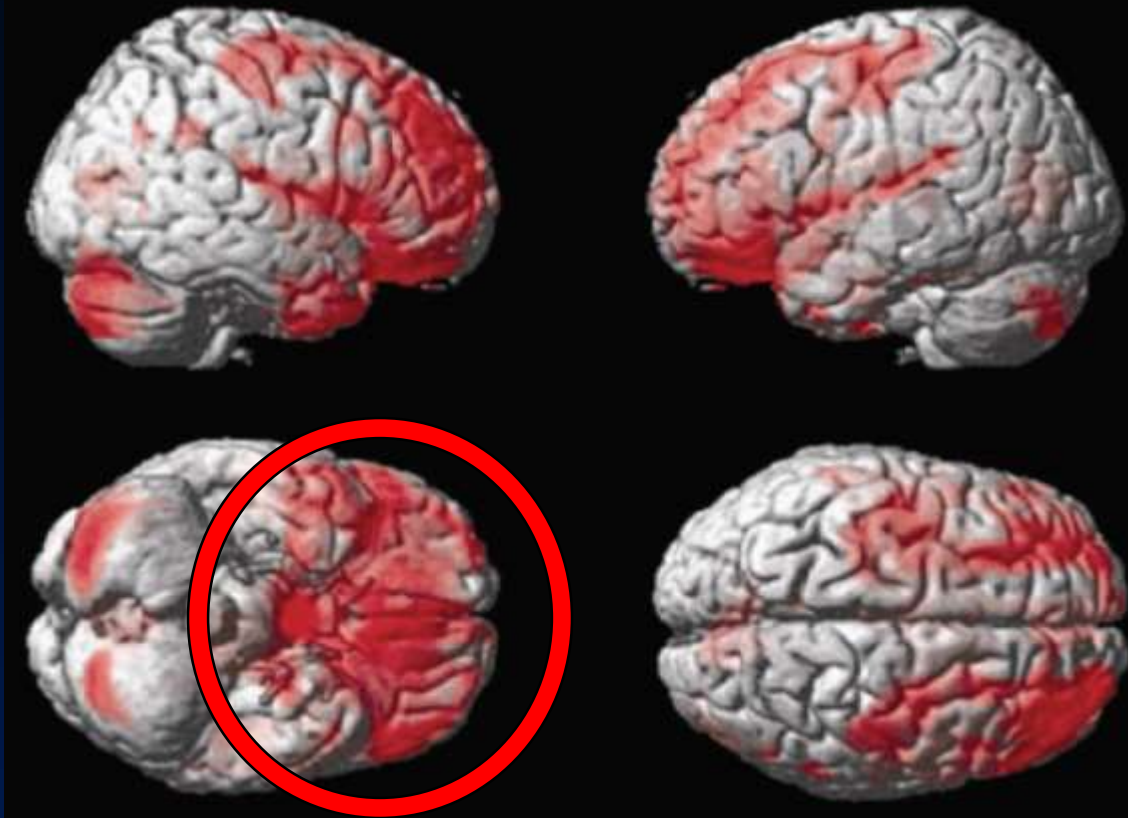
Delay Discounting:



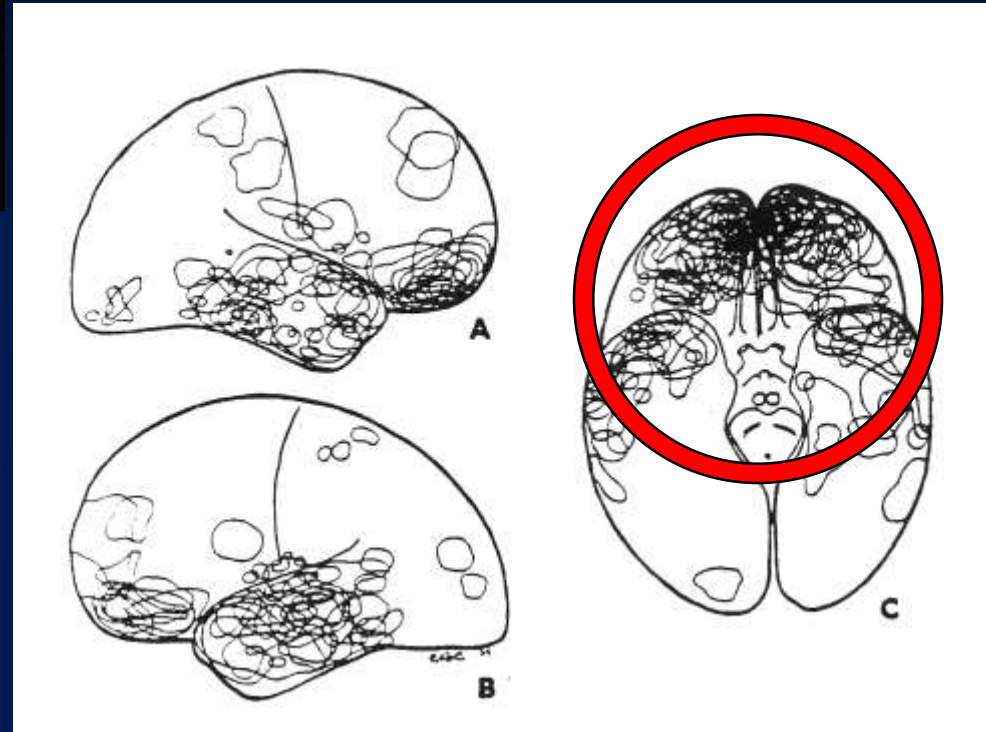
the value of immediate vs. delayed
rewards

Regions of greater activation processing immediate rewards

from McClure et al (2004). *Science* 306, 503-507.



Areas of contusion in
(Courville, 1950)



Loss of gray matter one
year post-injury
(Bigler, 2007)

Developmental Contributions

Early childhood TBI, even if mild, may pre-dispose to later behavioral problems.



Whether working in mental health, substance abuse, criminal justice or other systems, it is worthwhile to know whether the person you are working with has had a TBI.

How can you determine if a person has had a TBI?

Issues Detecting a Lifetime History of TBI

- Capture from medical encounters
 - medical treatment often may not be sought
 - lifetime records not available
 - mild TBI often missed in Emergency Departments
- Biomarkers
 - imaging, neuropsych assessment specific but not sensitive
 - proteomics very acute only and sensitive but not specific
- Retrospective self-report
 - cannot self-diagnose
 - not aware of injury (“telescoping,” poor memory, too young)

**Gold
Standard**

OSU TBI Identification Method

- Structured interview designed to elicit lifetime history of TBI.
- Avoids misunderstanding about what a TBI is by eliciting injuries, then determining if altered consciousness occurred.
- Provides more information than simple “yes/no”

Training at: www.ohiovalley.org/tbi-id-method

Initial Reliability and Validity of the Ohio State University TBI Identification Method

John D. Corrigan, PhD; Jennifer

Objectives: Evaluate the psychometric
Participants: Convenience samples of
 $N = 119$ (study 1) and $N = 103$ (study
2). **Measures:** Summary indices of th
elicited via a structured interview. **Re**
characterized by severity weighted co
symptoms persisting, worst injury, ti
of consciousness. Age at injury and s
cognitive and behavioral consequen
reliability and validity of summary in
screening, substance use disorders, trauma

Reliability and Predictive Validity of the Ohio State University TBI Identification Method With Prisoners

Jennifer Bogner, PhD; John D. Corrigan, PhD

J Head Trauma Rehabil
Vol. 24, No. 4, pp. 279–291
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The Reliability of a Computer-Assisted Telephone Interview Version of the Ohio State University Traumatic Brain Injury Identification Method

Jeffrey P. Cuthbert, PhD, MPH, MSOT; Gale G. Whiteneck, PhD; John D. Corrigan, PhD; Jennifer Bogner, PhD

J Head Trauma Rehabil
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traumatic brain injury (TBI)
and female ($N = 105$) state
Primary Measures: Summary
derived from data elicited via
Factor analysis showed that
tood onset), (2) combinations
effects. Age at injury, number
to the prediction of common
er support for the reliability
ctured interview. **Keywords:**

Altered amygdala connectivity in individuals with chronic traumatic brain injury and comorbid depressive symptoms

Kihwan Han^{1*}, Sandra B. Chapr

Orbitofrontal cortical thinning and aggression in mild traumatic brain injury patients

Neurological correlates of lifetime history of TBI from the OSU TBI-ID

Plasma Anti-Glial Fibrillary Acidic Protein Autoantibody Levels during the Acute and Chronic Phases of Traumatic Brain Injury: A Transforming Research and Clinical Knowledge in Traumatic Brain Injury Pilot Study

liot Bueler^{2,3} | Jace King^{1,2} |

Kevin K. W. Wang,^{1,*} Zhihui Yang,^{1,*} John K. Yue,¹ Ava M. Puccio,⁴ Ramon Diaz-Arrastia,⁵ Hester F. Ling,⁶ Alex B. Valadka,⁸ Wayne A. Gordon,⁹ David O. Okonkwo,⁷ Investigators (including Shelly R. Cooper,^{2,3,6} Kristen Darby,¹⁰ Andrew I. R. Maas,¹⁰ David K. Menon,¹¹ David M. Schn

Disrupted Intrinsic Connectivity among Default, Dorsal Attention, and Frontoparietal Control Networks in Individuals with Chronic Traumatic Brain Injury*

Mean cortical curvature reflects cytoarchitecture restructuring in mild traumatic brain injury



Ohio State University TBI Identification Method — Interview Form

Step 1

Ask questions 1-5 below. Record the cause of each reported injury and any details provided spontaneously in the Chart at the bottom of this page. You do not need to ask further about loss of consciousness or other injury details during this step.

I am going to ask you about injuries to your head or neck that you may have had anytime in your life.

1. In your lifetime, have you ever been hospitalized or treated in an emergency room following an injury to your head or neck? Think about any childhood injuries you remember or were told about.

No Yes—Record cause in chart

2. In your lifetime, have you ever injured your head or neck in a car accident or from crashing some other moving vehicle like a bicycle, motorcycle or ATV?

No Yes—Record cause in chart

3. In your lifetime, have you ever injured your head or neck in a fall or from being hit by something (for example, falling from a bike or horse, rollerblading, falling on ice, being hit by a rock)? Have you ever injured your head or neck playing sports or on the playground?

No Yes—Record cause in chart

4. In your lifetime, have you ever injured your head or neck in a fight, from being hit by someone, or from being shaken violently? Have you ever been shot in the head?

No Yes—Record cause in chart

5. In your lifetime, have you ever been nearby when an explosion or a blast occurred? If you served in the military, think about any combat- or training-related incidents.

No Yes—Record cause in chart

Interviewer instruction:

If the answers to any of the above questions are "yes," go to Step 2. If the answers to all of the above questions are "no," then proceed to Step 3.

Step 2

Interviewer instruction: If the answer is "yes" to any of the questions in Step 1 ask the following additional questions about each reported injury and add details to the Chart below.

Were you knocked out or did you lose consciousness (LOC)?

If yes, how long?

If no, were you dazed or did you have a gap in your memory from the injury?

How old were you?

Step 3

Interviewer instruction: Ask the following questions to help identify a history that may include multiple mild TBIs and complete the Chart below.

Have you ever had a period of time in which you experienced multiple, repeated impacts to your head (e.g. history of abuse, contact sports, military duty)?

If yes, what was the typical or usual effect—were you knocked out (Loss of Consciousness - LOC)?

If no, were you dazed or did you have a gap in your memory from the injury?

What was the most severe effect from one of the times you had an impact to the head?

How old were you when these repeated injuries began? Ended?

Step 1 Cause	Step 2 Loss of consciousness (LOC)/knocked out				Dazed/Mem Gap		Age
	No LOC	< 30 min	30 min-24 hrs	> 24 hrs	Yes	No	

If more injuries with LOC: How many? _____ Longest knocked out? _____ How many ≥ 30 mins.? _____ Youngest age? _____

Step 3 Cause of repeated injury	Typical Effect		Most Severe Effect			Age		
	Dazed/ memory gap, no LOC	LOC	Dazed/ memory gap, no LOC	LOC < 30 min	LOC 30 min - 24 hrs.	LOC > 24 hrs.	Began	Ended

Método para Identificación de TCE de la Universidad Estatal de Ohio – Formulario de Entrevista

Paso 1

Haga las preguntas 1 a 5 que se encuentran a continuación. Anote la causa de cada lesión reportada y cualquier detalle proporcionado espontáneamente en la tabla que se encuentra al final. No necesita hacer más preguntas sobre pérdida de conocimiento u otros detalles de la lesión durante este primer paso.

Le voy a preguntar sobre golpes o lesiones en su cabeza o cuello que puede haber sufrido durante su vida.

- Durante su vida, ¿Ha sido hospitalizado(a) o atendido(a) en una sala/clínica de emergencia por algún golpe en su cabeza o cuello? Piense acerca de cualquier golpe que haya sufrido incluso desde su niñez de las que usted se acuerde o le hayan contado.
 No Sí – Anote la causa en la tabla
- Durante su vida, ¿Se ha golpeado su cabeza o cuello en un accidente de auto o al chocar en otro vehículo en movimiento como una bicicleta, motocicleta o vehículo todo terreno?
 No Sí – Anote la causa en la tabla.
- Durante su vida, ¿Se ha golpeado su cabeza o cuello en una pelea, al ser golpeado por alguien, o al ser sacudido bruscamente? No
 Sí – Anote la causa.
- Durante su vida, ¿Ha estado cerca de una explosión o de una onda expansiva? Si prestó servicio militar, piense en cualquier incidente durante combate o entrenamiento. No Sí – Anote la causa.
- Durante su vida, ¿Ha estado cerca de una explosión o de una onda expansiva? Si prestó servicio militar, piense en cualquier incidente durante combate o entrenamiento. No Sí – Anote la causa.

Instrucciones para el entrevistador:

Si la respuesta a cualquiera de las preguntas de arriba fue "sí" vaya al paso 2. Si la respuesta a todas las preguntas de arriba fue "no", entonces proceda al paso 3.

Paso 2

Instrucciones para el entrevistador: Si la respuesta a cualquiera de las preguntas del Paso 1 fue "sí", haga las siguientes preguntas adicionales sobre cada lesión reportada y agregue los detalles en la tabla de abajo.

- ¿Se desmayó, quedó noqueado(a), o perdió el conocimiento (PdC) debido al golpe?
 Si contesta sí:
 ¿Por cuánto tiempo?
 Si contesta no:
 ¿Se sintió aturdido(a), atarantado(a) o tuvo lagunas/pérdida de su memoria debido a, o después del golpe/lesión?
 ¿Qué edad tenía?

Paso 3

Instrucciones para el entrevistador: Haga las siguientes preguntas para ayudar a identificar antecedentes de múltiples TCE leves y complete la tabla de abajo.

- ¿Ha habido alguna vez un período de tiempo durante el cual experimentó múltiples golpes repetitivos en su cabeza? (por ejemplo: historia de abuso, deportes de contacto, servicio militar). Si contesta sí,
 ¿Cuál fue el efecto típico o usual, perdió usted el conocimiento (PdC)?
 Si contesta no, ¿Quedó aturdido(a), atarantado(a) o tuvo pérdida de la memoria debido a la lesión?
 ¿Cuál fue el efecto más grave de una de las ocasiones que tuvo un golpe en la cabeza?
 ¿Qué edad tenía cuando estas lesiones repetitivas empezaron?
 ¿Terminaron?

Paso 1 Causa	Paso 2 Pérdida del conocimiento (PdC)				Aturdimiento, Pérdida de memoria		Edad
	No PdC	< 30 min	30 min-24 hrs	> 24 hrs	Sí	No	

Si ha tenido más lesiones con PdC: ¿Cuántas? _____ ¿Tiempo máximo PdC? _____ ¿Cuántas > a 30 minutos? _____ ¿Menor edad? _____

Paso 3 Causa de la lesión repetida	Efecto Típico		Efecto Más Grave				Edad	
	Aturdimiento, pérdida de memoria, no PdC	PdC	Aturdimiento, pérdida de memoria, no PdC	PdC < 30	PdC 30min-24hrs	PdC > 24hrs	Empezaron	Terminaron

Traumatic Brain Injury Identification Method

A Tool for Health Care and Social Service Professionals



Wexner Medical Center

Ohio Valley Center for Brain Injury Prevention and Rehabilitation
Department of Physical Medicine and Rehabilitation
The Ohio State University



Presentation produced in partnership with BrainLine, a project of WETA

Key Considerations: Problematic Lifetime Exposure

A person may be more likely to have ongoing problems if they have any of the following:

WORST

One moderate or severe TBI

FIRST

TBI with loss of consciousness before age 15

MULTIPLE

Had 2 or more TBIs close together, including a period of time when they experienced multiple blows to the head

RECENT

A mild TBI in recent weeks or a more severe TBI in recent months

OTHER SOURCES

Any TBI combined with another way that their brain function has been impaired

Next Steps

If the person you've screened has had a sufficient history of TBI, consider the following treatment planning issues:

- [Learn more about TBI](#), and share what you've learned with the impacted individual.
- Consider simple [accommodations](#) you can make in your treatment.
- If cognitive problems are getting in the way of treatment or services, consider consulting a rehabilitation professional.
- Consider how side effects of any medication you are prescribing may interact with existing impairment.

A list of resources to help you is on the next slide.

How can you accommodate the
effects of TBI?

Accommodating the Symptoms of TBI

Presented by:

Ohio Valley Center for Brain Injury
Prevention and Rehabilitation

With contributions from Minnesota Department of Human
Services State Operated Services

Developed in part with support of a grant from the US Department of Health and Human Services, Health Resources and Services Administration (HRSA) to Ohio Rehabilitation Services Commission and The Ohio State University

Neurocognitive Functions



Attention

Processing

Memory

Executive Function

Initiation

Impulsivity

Planning & Organization

Mental Flexibility

Self-Awareness

Problem = Processing

The time it takes to think through and understand new information or concepts can be affected when a person has had a TBI. This does not mean they cannot understand – they may just need more time to understand.

What to Look For

Is PROCESSING a problem?

Only picks up a portion of instructions or conversations

Has difficulty keeping up with a conversation

May tire easily

May appear to “zone out”

May appear passive or unmotivated

Is sometimes referred to as “lazy”

Accommodating Problems with Processing

Keep it Simple

- It's easy for someone with processing problems to get lost in a conversation. Simplify information and provide one idea or task at a time

Check In

- Frequently check for understanding by asking the person to repeat back instructions or ideas

Slow it Down

- Make sure to provide sufficient time for the person to process and respond. Count silently to yourself after asking a question to allow extra time for the person to process the question







People with more complicated histories of TBI have more problems complying with clinical & programmatic expectations:

- By taking into account the effects of a TBI, service providers will better understand their clients.
- Increased understanding can help to build therapeutic rapport.
- Adapting services does not need to be expensive, and can improve overall effectiveness.
- Some adaptations may also be applicable to persons with other disabilities.

THANK YOU

Final Review of Indiana TBI State Plan and Vote

**Jeremy Funk, MPH
Trauma & Injury Epidemiologist
Division of Trauma and Injury Prevention
Indiana State Department of Health**



*Indiana Traumatic Brain Injury
State Plan
2018 - 2023*



Indiana State
Department of Health

Indiana TBI State Plan

Mission Statement:

To develop, implement, and provide oversight for a statewide coordinated care structure for traumatic brain injuries (TBIs) aiming to:

1. Reduce the number of injuries
2. Improve the care and outcomes of TBI patients
3. Increase the access to resources and rehabilitation for TBI patients
4. Provide evidence-based education to patients and families of those with TBIs

Vision:

Prevent brain injuries and improve long-term outcomes of TBI patients in Indiana.

Core Values:

- Health promotion and prevention
- Data collection, analysis, and information dissemination
- Evidence-based best practices for public health promotion, training, and health care quality.

Indiana TBI State Plan

Approved by Indiana State Department of Health on Feb 15, 2019

Now seeking vote from Indiana TBI Advisory board.



*TBI Needs and Resource
Assessment*

TBI Needs and Resource Assessment

Requirement for the Administration of Community Living (ACL) Traumatic Brain Injury grant awarded to ISDH in 2018.

Planned deliverable for the 2019 fiscal year.

Ghost Map Analytics will conduct an online survey & provide aggregate reports.

TBI Needs and Resource Assessment

Last conducted in 2007 by Luther Consulting.

- *Mail survey with 378 unique responses from clinicians and former TBI patients.*

Aim to display temporal trends in perceptions and needs from TBI consumers and providers.

- *Will display how TBI care has improved and regressed over the last decade in Indiana.*

TBI Needs and Resource Assessment

Timeline:

Survey Open	March 1, 2019
Preliminary Findings:	July 1, 2019
Survey Closed	October 1, 2019
Final Report	December 1, 2019

Statewide survey of four populations:

- *Former & current TBI patients*
- *Family members of recovering TBI patients*
- *Clinicians & medical staff*
- *Government employees*

TBI Needs and Resource Assessment

Number of questions:	12 - 26
Average user survey time:	8 minutes 35 seconds
Target survey sample:	600+ individuals

Additional Questions to gather:

- *Prevalence of Chronic Symptomology of TBI*
- *Who is asking patients about Hx of TBI*
- *Government agency programs & perceptions*
- *Inclusion of family members & guardians*

TBI Needs and Resource Assessment

One URL link for all survey types.

Shared through email, social media, and direct referral.

Usable on phone, tablet, or desktop computer.

TBI Needs and Resource Assessment

Survey Link:

<https://www.surveymonkey.com/r/IndianaTBISurvey>

Contact:

Jeremy Funk, MPH

jfunk@ghostmapanalytics.com

(317) 504.8994

BREAK

Updates on the ACL Brain Injury Grant

Laura Trexler, OTR, CBIS
Rehabilitation Hospital of Indiana

Steve Sutter, CreateAbility

Lance Trexler, PhD, FACRM
Rehabilitation Hospital of Indiana

Devan Parrott, PhD
Rehabilitation Hospital of Indiana



ACL RF Research -Anticipated Outcomes

Primary Aim:

- Improved health-related quality of life and decreased level of disability.

Secondary Aims:

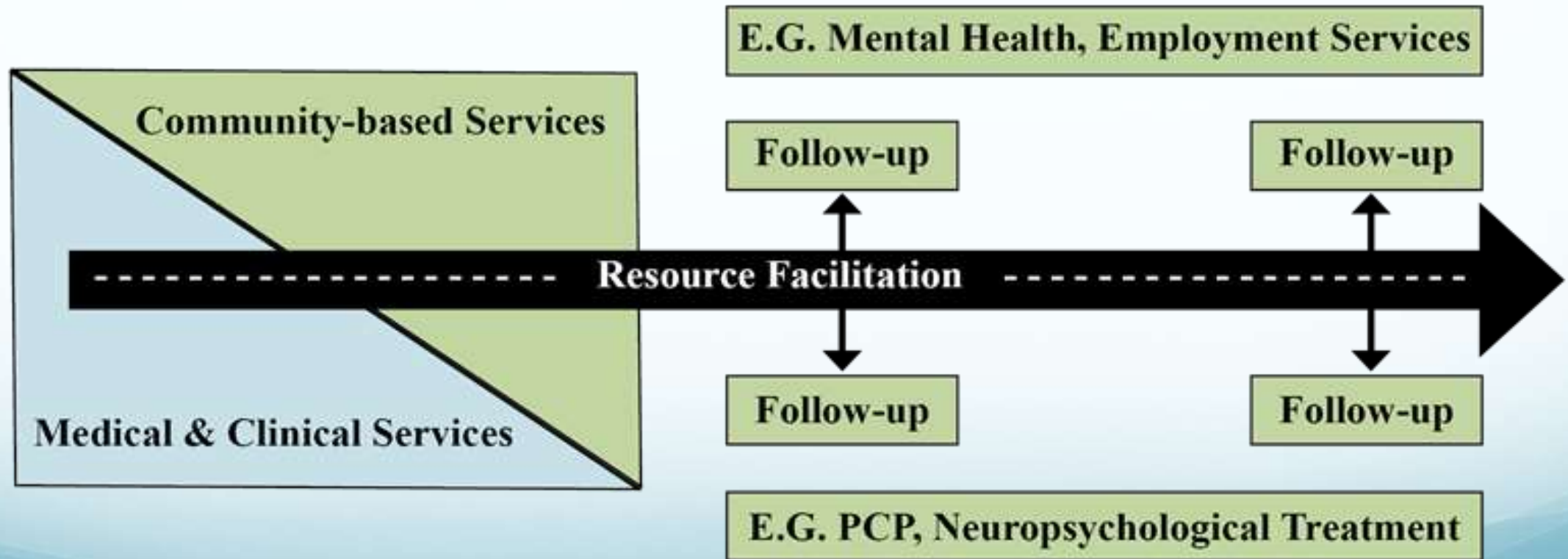
- Decreased incarceration and institutionalization and
- Decreased substance abuse, especially opioid misuse.

ACL Resource Facilitation

- Provides individualized assessment,
- brain injury specific education (see samples in folder)
- **proactive** navigation to community-based supports, resources and services
- an integrated care team
- removal of instrumental barriers (e.g., lack of housing) as well as brain injury-specific barriers (e.g., memory impairment) to successful home and community re-integration and return to work.

Resource Facilitation

Resource Facilitation: Acute to Chronic Care Continuum



Resource Facilitation Services and Supports

Instrumental Services

- Housing
- Food
- Transportation
- Reimbursement for services

Brain-Injury Specific Services

- Strategies for managing cognitive/behavioral impairments
- Patient-family education about brain injury
- consulting with other providers about how to modify services for brain injury

The ACL RF Team

Flora Hammond, MD, Chair

IU Dept. of Physical Medicine & Rehabilitation

Jesse Fann, MD, MPH, University of Washington
Medical Director, Psychiatry & Psychology, Seattle
Cancer Care Alliance

Lance Trexler, PhD, HSPP, FACRM

Rehabilitation Hospital of Indiana

Summer Ibarra, PhD, ABPP-RP, HSPP

Rehabilitation Hospital of Indiana

Laura Trexler, OTR

ACL Clinical Program Manager

1 of 3 possible **Resource Facilitator(s)**

Steve Sutter, President, CreateAbility

Other care partner(s)



ACL RF Services

- Initiation of RF treatment goals, MyBRAIN training via BEAM on a Kindle Fire, BI education, facilitation of care partner communication and collaboration
- Monthly Team Case Conferences
- RF services funded up to 1-year per participant
- Team discharge planning and recommendations for ongoing stabilization.



Lance Trexler, PhD, HSPP, FACRM
Rehabilitation Hospital of Indiana



- Cloud-based real time collaboration between client and provider with access to anyone else with permission developed by CreateAbility.
- Client interface with Kindle Fire
- Individual and Cohort Purpose:
 - Surveillance
 - Assessment and Re-Assessment
 - Risk Stratification
 - Intensity and Type of Resource Facilitation Follow-up
 - Self-Management Training
- Monitor recovery for individuals, overall cohort, high risk cohort, others
- Use data for research on
 - Predictors of recovery – stability – decline
 - Effectiveness of treatment

MyBrain[©] Risk Assessment: Pre-Injury Variables

Domain	Measure	Reassessment Frequency	Monthly Surveillance measure	Criteria for High or Low Risk		Risk Rating
				Low = 1	High=2	
Substance Abuse	PROMIS Severity of SA	at Baseline 2 (RA)		T < 59	T > 60	
Criminality	Minnesota House Research Dept, 2007	at RF Intake		No criminal history	misdemeanor, gross misdemeanor, or felony	
Previous TBI	OSU-TBI-ID	at Baseline 2 (RA)		No history or single mTBI	multiple mild or greater	
Psychiatric Illness		at RF Intake		No psychological / psychiatric diagnosis	Medicated, treated, and/or hospitalized for psychological/psychiatric diagnosis	

MyBrain[®] Risk Assessment: Post-Injury Variables Related to Primary Aims

Domain	Measure	Reassessment Frequency	Monthly Surveillance measure	Criteria for High or Low Risk		Risk Rating
				Low = 1	High=2	
Substance Abuse	PROMIS Alcohol - Negative Consequences	Over-Ride	Monthly	T < 59	T > 60	
	PROMIS Severity of Substance Abuse	Over-Ride	Monthly	T < 59	T > 60	
Dyscontrol	PROMIS Self-efficacy for Managing Emotions 8a	Over-Ride	Monthly	T > 60	T < 59	
Sleep	PROMIS Sleep-Related Impairment 8a	Over-Ride	Monthly	T > 60	T < 59	
Cognitive Impairment	PROMIS Cognitive Function 8a	Over-Ride	Monthly	T > 60	T < 59	
Level of Disability	MPAI Total Score	Over-Ride	Monthly	30-44	>45	
Social/Family Isolation	PROMIS Ability to Participate in Social Roles and Activities 8a	Over-Ride	Monthly	T > 60	T < 59	
TOTAL RISK RATING (16-32 is the possible range)						Green Yellow Red



MyBrain[®] Risk Assessment: Post-Injury Variables Related to Secondary Aims

Domain	Measure	Reassessment Frequency	Monthly Surveillance measure	Criteria for High or Low Risk		Risk Rating
				Low = 1	High=2	
Pain	PROMIS Pain Intensity 1a	Over-Ride	Monthly	T < 59	T > 60	
Opioid Use	PROMIS Prescription Pain Medication Misuse 7a	Over-Ride	Monthly	T < 59	T > 60	
Anger	BAAQ	Over-Ride	Monthly	0-8	≥9	
Mood	PHQ-4: Items 1+2	Over-Ride	Monthly	< 2 (score 1)	≥2 admin GAD-7	
	PHQ-4: Items 3+4	Over-Ride	Monthly	< 2 (score 1)	≥2 admin PHQ-9	
	PHQ-9	Over-Ride	Monthly	0-4	5-27	
	GAD-7	Over-Ride	Monthly	0-4	≥5	



MyBrain[©] Risk Stratification and RF

Level of Risk	Definition	Intensity of RF
High (28-32)	significant intensity or number of biopsychosocial risk factors that could lead to deterioration or failure to recover	<ul style="list-style-type: none"> • RF: Minimum of weekly (in-person/telephonic) with subject/family • Weekly RF/ACL Program Manager update • ACL RF Clinical Manager determines if case consultation with NY or MD's is indicated and/or case conference required sooner • Case Conference: 20-minute Core+MD every 2 weeks
Medium (21-27)	significant intensity or number of biopsychosocial risk factors that could lead to deterioration or failure to recover, but stable	<ul style="list-style-type: none"> • RF: Minimum of weekly (in-person/telephonic) with subject/family • Bi-Weekly RF/ACL Program Manager update • ACL RF Clinical Manager determines if case consultation with NY or MD's is indicated • Case Conference: 15-minute Core+MD every 4 weeks
Low (16-20)	few to no biopsychosocial risk factors and evidence of good recovery/stability of adjustment	<ul style="list-style-type: none"> • RF: Minimum of bi-weekly (in-person/telephonic) with subject/family • Staffing: 10-minute Core Team every 4 weeks

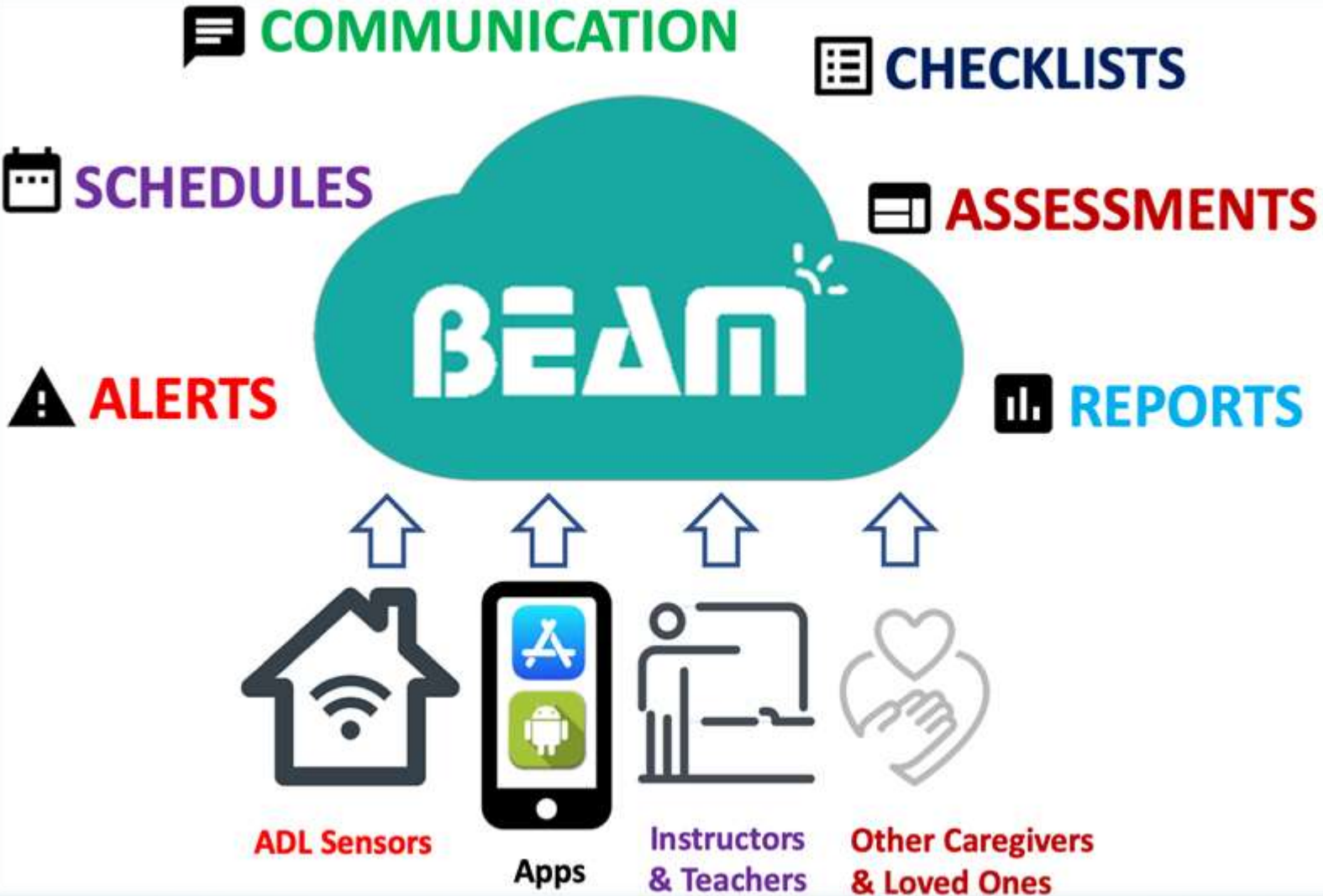
MyBRAIN[®] Self-Management Apps

Domains	Type of Intervention	If HIGH risk...	If LOW risk...
Pain	Relaxation	Play their favorite music; "Clear Picture" activity; "New Me" activity	Relaxation Music "New Me" activity Free relaxation apps
Opioid Use	Alternatives to urges	HALT, Clear Picture Mindfulness for Anxiety/Stress	Skills System skills
Anger	Positive expressions of energy or charge	Mindfulness for Anger	Skills System skills
Mood	Improving mood	Mindfulness for Depression	HALT Skills System skills
Substance Abuse	Distractions; Alternatives to giving into thoughts or urges	HALT, Clear Picture Mindfulness for Anxiety/Stress	HALT Skills System skills
Dyscontrol	Awareness of emotions/feelings	Clear Picture HALT Mindfulness Relaxation	Skills System skills

BEAM

**Steve Sutter, President
CreateAbility**

BEAM

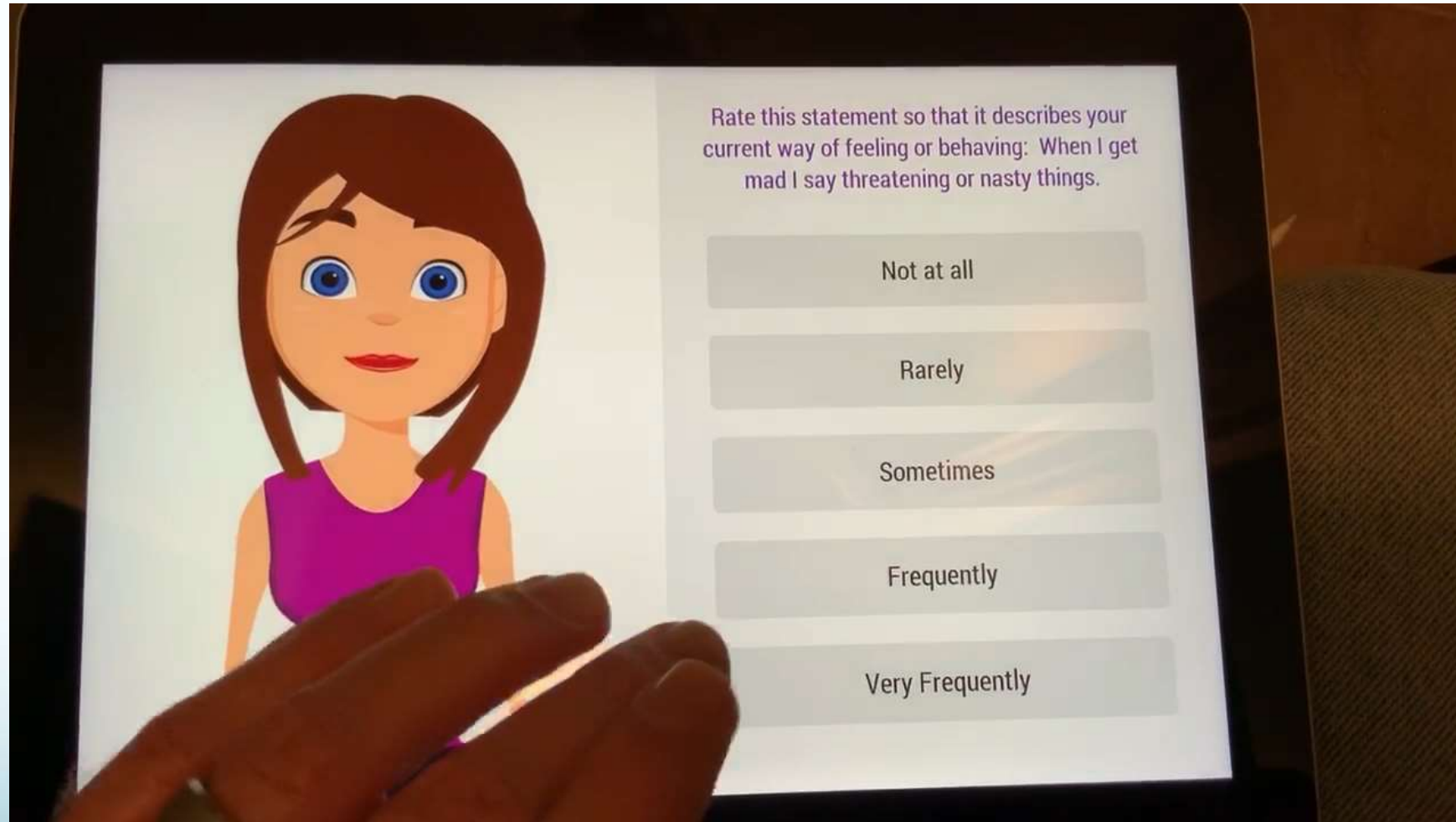


BEAM Assessments

The screenshot displays the BEAM Sentry web application interface. On the left is a dark sidebar with navigation options: Dashboard, Select Items, All Tasks, Personal List, Configure Plan, System Configuration, Assessment Dashboard, App Scheduler, and Group Controls. The top header is teal with the BEAM Sentry logo and a user profile for Steve_RHI | SStest. The main content area is a table of assessments.

Category	Assessment Name	Date	Status	Frequency	Score Range	Risk Level	Count	
Pain	PROMIS Pain Intensity 1a	Feb 21, 2019	Recommended	Monthly	T < 59	T > 60	High Scores = High Risk	2
Opioid Use	PROMIS Prescription Pain Medication Misuse 8a	Feb 21, 2019	Recommended	Daily	T < 59	T > 60	High Scores = High Risk	1
Anger	BAAQ	Feb 21, 2019	Recommended	Daily	0 - 8	> 8	High Scores = High Risk	2
Mood	PHQ-4	Feb 21, 2019	Recommended	Daily	T < 59	T > 60	High Scores = High Risk	2
Mood	PHQ-9	Feb 23, 2019	Recommended	Daily	0 - 4	5 - 27	High Scores = High	1

Participant Assessments

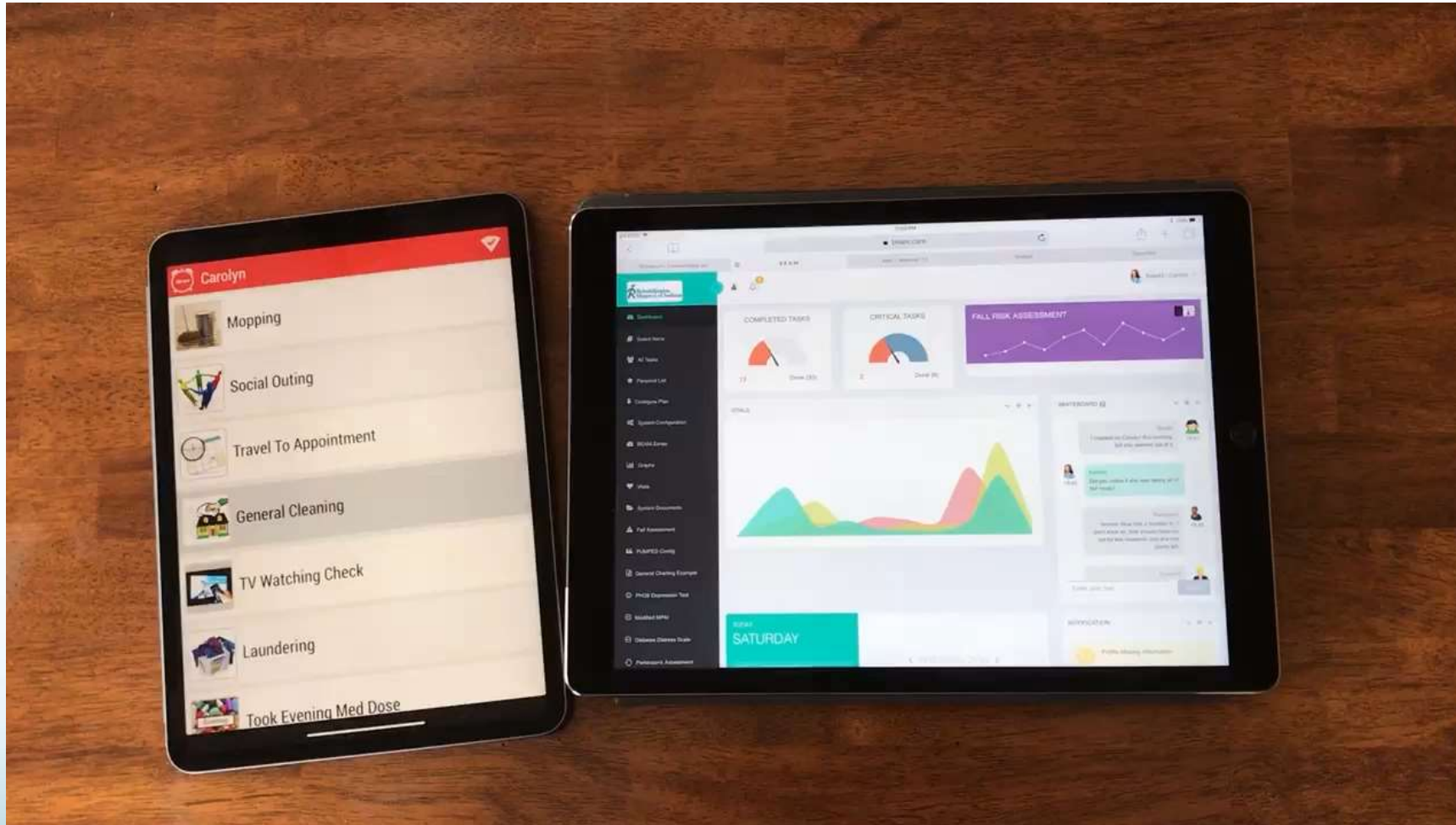


Intervention



Getting a clear picture means that we take a few seconds to notice what is happening inside and outside of us right now. Are you up for that?

Other Accommodations



Disclosure By Steve Sutter

50% of the profits from sales of CreateAbility's products goes to feed starving children – mine.

Research Updates

Lance Trexler, PhD, HSPP, FACRM
Rehabilitation Hospital of Indiana



Research Updates

- Regulatory compliance and approval updates
 - IU/Methodist
 - St. Vincent
- Recruitment and enrollment updates
- Current obstacles and strategies

Research Updates *continued*

- **BRITE study:** impact, collaboration, and future ideas
 - Outcome metrics
 - Provider collaboration
 - Translational impact at RHI
- **Next steps**

Disclosures

Funding for this presentation was made possible (in part) by the Administration for Community Living. The views expressed in written conference materials or publications and by speakers and moderators do not necessarily reflect the official policies of the Department of Health and Human Services, nor does the mention of trade names, commercial practices, or organizations imply endorsement by the U.S. Government.





Updates on Brain Injury Association of Indiana (BIAI)

**Wendy Waldman, BSW, CBIST
Rehabilitation Hospital of Indiana
Brain Injury Association of Indiana Vice-President**



Brain Injury Association of Indiana

www.biaindiana.org

Indiana Traumatic Brain Injury Advisory Board
Wendy Waldman, BSW, CBIST
Rehabilitation Hospital of Indiana
March 7, 2019



About BIAI

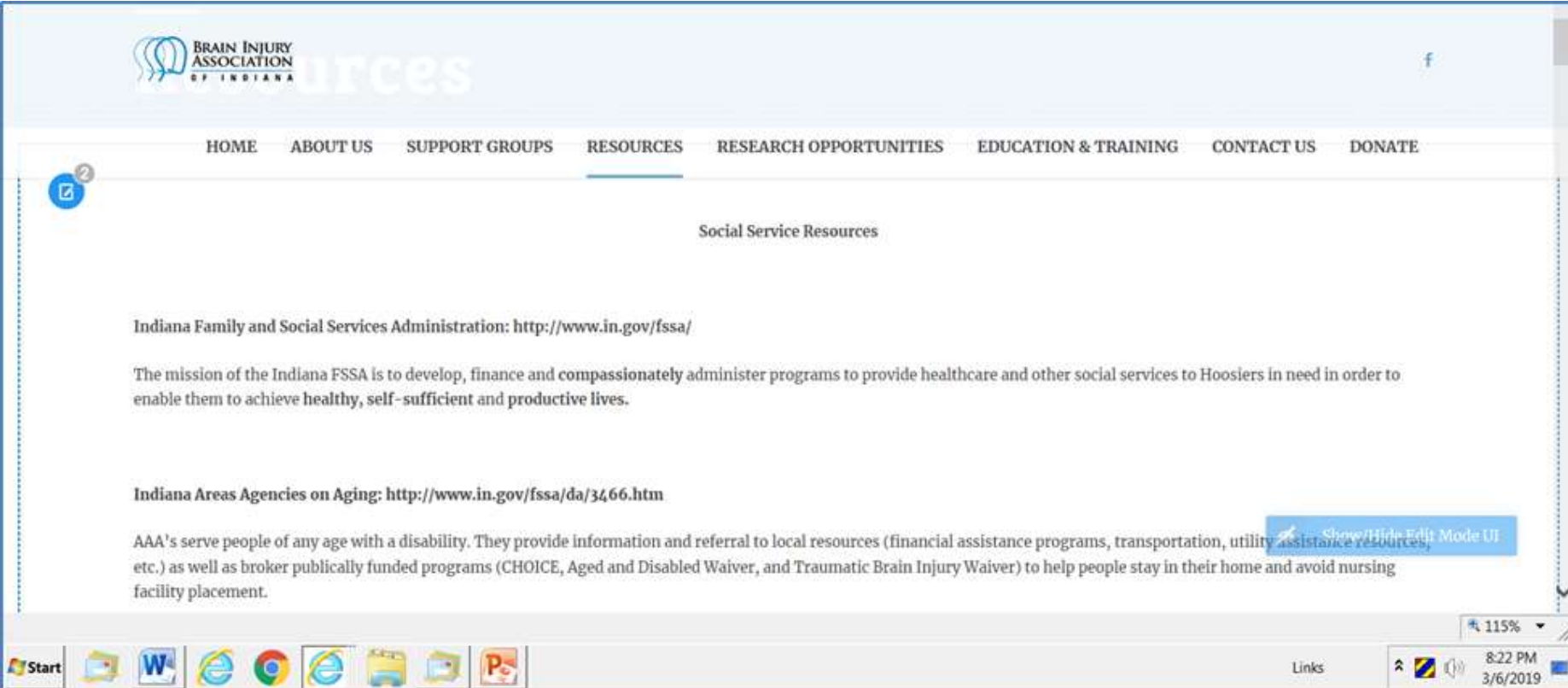
- Founded in 1981, the Brain Injury Association of Indiana is the first charter chapter of the national Brain Injury Association of America. Affiliate of BIAA.
- Dedicated to reducing the incidence and impact of brain injury through education, advocacy, support, prevention and by facilitating inter-agency commitment and collaboration.

Services Provided:

- Statewide information, referral and connection to services, resources and support for individualized needs.
 - By phone, email and in person.
- Advocacy by responding to their challenges and representing their concerns through legislative efforts and active support of programs created for their needs.
- Support Groups
- Website: www.biaindiana.org

BIAI Website

Resources: Social Service and Brain Injury specific



The screenshot displays the website for the Brain Injury Association of Indiana. The header includes the organization's logo and the word "Resources" in a large, light blue font. A navigation menu is located below the header, with "RESOURCES" highlighted. The main content area is titled "Social Service Resources" and contains two entries:

- Indiana Family and Social Services Administration:** <http://www.in.gov/fssa/>
The mission of the Indiana FSSA is to develop, finance and compassionately administer programs to provide healthcare and other social services to Hoosiers in need in order to enable them to achieve healthy, self-sufficient and productive lives.
- Indiana Areas Agencies on Aging:** <http://www.in.gov/fssa/da/3466.htm>
AAA's serve people of any age with a disability. They provide information and referral to local resources (financial assistance programs, transportation, utility assistance resources, etc.) as well as broker publically funded programs (CHOICE, Aged and Disabled Waiver, and Traumatic Brain Injury Waiver) to help people stay in their home and avoid nursing facility placement.

The bottom of the screenshot shows a Windows taskbar with various application icons and a system tray displaying the time as 8:22 PM on 3/6/2019. A small blue button labeled "Show/Hide Edit Mode UI" is visible in the bottom right corner of the webpage content.

BIAI Website:

Publications and Videos:

The screenshot shows the website for the Brain Injury Association of Indiana. The header includes the organization's logo and a navigation menu with the following items: HOME, ABOUT US, SUPPORT GROUPS, RESOURCES (which is underlined), RESEARCH OPPORTUNITIES, EDUCATION & TRAINING, CONTACT US, and DONATE. The main content area is titled "Brain Injury Publications and Videos" and features two entries:

- Understanding Brain Injury - A Guide for the Family: Mayo Clinic** - <https://biaia.org/wp-content/uploads/2018/01/Mayo-Clinics-Understanding-Brain-Injury-A-Guide-for-the-Family.pdf>
This booklet contains information on the human brain, causes of acquired brain injury, the recovery process, and behavior, communication and physical changes after brain injury. It also outlines examples of stressful behaviors and situations that people with brain injury may experience.
- MAKING LIFE WORK AFTER A BRAIN INJURY - A Family Manual for Life at Home**: This manual supports the concepts introduced in the three part video series for families titled Making Life Work, developed by Brain Injury Association of Florida, formerly the National Head Injury Foundation, Florida Association, Inc., under Contract No. V1031-G3661, sponsored by the Division of Vocational Rehabilitation, Department of Labor and Employment Security, 1997 - <http://www.biaoregon.org/docetc/publications/Making%20Life%20Work%20After%20Brain%20Injury-%20A%20Family%20Guide%20for%20Life%20at%20Home.pdf>
This manual is designed to help you make the transition from the rehabilitation facility to your home, and to assist you in managing the cognitive and behavioral family member as a result of brain injury. It also addresses the lifelong care, vocational, educational, financial, and legal issues associated with a brain injury. The manual is meant to be used in parts or in its entirety, whichever meets your needs.

At the bottom right of the content area, there is an orange button labeled "Show/Hide Edit Mode UI". The browser's address bar shows the URL <https://www.facebook.com/biaindiana/>. The taskbar at the bottom includes the Start button and icons for various applications. The system tray shows the date and time as 8:27 PM on 3/6/2019.



About BIAI

Calendar:

The screenshot shows the Brain Injury Association of Indiana website's calendar for March 2019. The website header includes the BIAI logo and navigation links: HOME, ABOUT US, SUPPORT GROUPS, RESOURCES, RESEARCH OPPORTUNITIES, EDUCATION & TRAINING, CONTACT US, and DONATE. The calendar is displayed in a grid format with days of the week as columns and dates as rows. Key events include:

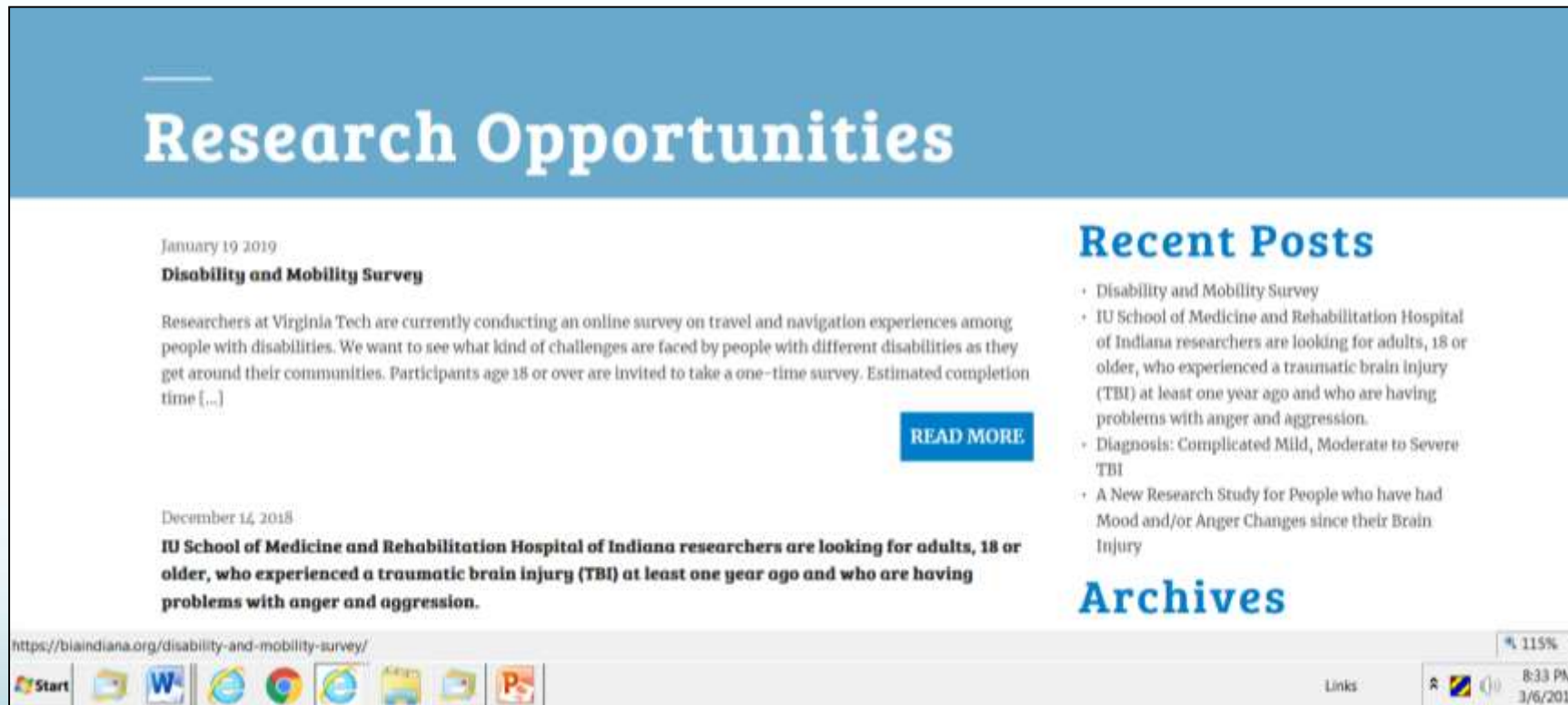
- Brain Injury Awareness Month (March 1-31)
- Brain Injury Awareness Month 12:00 pm (March 1)
- Love Your Brain Yoga at RHI 5:30 pm (March 4)
- Love Your Brain Yoga- session full 5 (March 11)
- Brain Injury Awareness Day (March 12)
- BITES- Brain Injury Technology and (March 20)

The calendar interface includes a 'Show/Hide Edit Mode UI' button and a zoom level of 115%. The Windows taskbar at the bottom shows the Start button, taskbar icons for Internet Explorer, Google Chrome, and Microsoft Word, and a system tray with the date 3/6/2019 and time 8:30 PM.



BIAI Website

Research Opportunities:



The screenshot displays the BIAI website's 'Research Opportunities' page. The page has a blue header with the title 'Research Opportunities' in white. Below the header, there are two main sections: 'Recent Posts' and 'Archives'. The 'Recent Posts' section features a list of three items, each with a blue 'READ MORE' button. The first item is dated January 19, 2019, and is titled 'Disability and Mobility Survey'. The second item is dated December 14, 2018, and is titled 'IU School of Medicine and Rehabilitation Hospital of Indiana researchers are looking for adults, 18 or older, who experienced a traumatic brain injury (TBI) at least one year ago and who are having problems with anger and aggression.' The 'Archives' section is partially visible at the bottom right. The browser's address bar shows the URL 'https://biaindiana.org/disability-and-mobility-survey/'. The taskbar at the bottom includes icons for Start, File Explorer, Word, Edge, Chrome, and PowerPoint. The system tray shows the date and time as 8:33 PM on 3/6/2019.

Research Opportunities

January 19 2019
Disability and Mobility Survey

Researchers at Virginia Tech are currently conducting an online survey on travel and navigation experiences among people with disabilities. We want to see what kind of challenges are faced by people with different disabilities as they get around their communities. Participants age 18 or over are invited to take a one-time survey. Estimated completion time [...]

[READ MORE](#)

December 14, 2018
IU School of Medicine and Rehabilitation Hospital of Indiana researchers are looking for adults, 18 or older, who experienced a traumatic brain injury (TBI) at least one year ago and who are having problems with anger and aggression.

Recent Posts

- Disability and Mobility Survey
- IU School of Medicine and Rehabilitation Hospital of Indiana researchers are looking for adults, 18 or older, who experienced a traumatic brain injury (TBI) at least one year ago and who are having problems with anger and aggression.
- Diagnosis: Complicated Mild, Moderate to Severe TBI
- A New Research Study for People who have had Mood and/or Anger Changes since their Brain Injury

Archives

https://biaindiana.org/disability-and-mobility-survey/ 115%

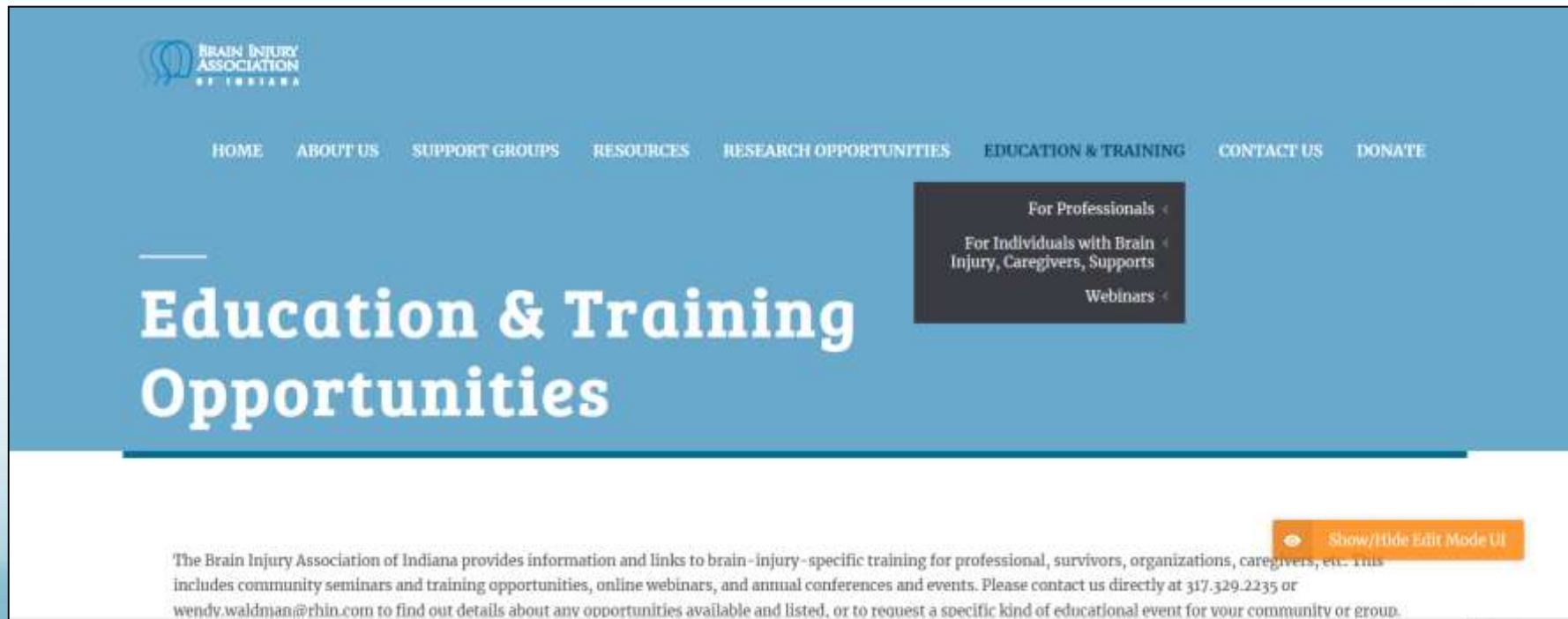
Start File Explorer Word Edge Chrome PowerPoint

Links 8:33 PM 3/6/2019

BIAI Website

Education and Training:

- For Professionals
- For Caregivers, survivors, supports
- Webinars



The screenshot shows the website's navigation menu with the following items: HOME, ABOUT US, SUPPORT GROUPS, RESOURCES, RESEARCH OPPORTUNITIES, EDUCATION & TRAINING, CONTACT US, and DONATE. The 'EDUCATION & TRAINING' menu is expanded, showing three sub-items: 'For Professionals', 'For Individuals with Brain Injury, Caregivers, Supports', and 'Webinars'. The main heading on the page is 'Education & Training Opportunities'. At the bottom, there is a paragraph of text and a 'Show/Hide Edit Mode UI' button.

Brain Injury Association of Indiana

HOME ABOUT US SUPPORT GROUPS RESOURCES RESEARCH OPPORTUNITIES EDUCATION & TRAINING CONTACT US DONATE

For Professionals <

For Individuals with Brain Injury, Caregivers, Supports <

Webinars <

Education & Training Opportunities

The Brain Injury Association of Indiana provides information and links to brain-injury-specific training for professional, survivors, organizations, caregivers, etc. This includes community seminars and training opportunities, online webinars, and annual conferences and events. Please contact us directly at 317.329.2235 or wendy.waldman@rhin.com to find out details about any opportunities available and listed, or to request a specific kind of educational event for your community or group.

Show/Hide Edit Mode UI

BIAI Website

Support Groups

[HOME](#) [ABOUT US](#) [SUPPORT GROUPS](#) [RESOURCES](#) [RESEARCH OPPORTUNITIES](#) [EDUCATION & TRAINING](#) [CONTACT US](#) [DONATE](#)

Where can you find us?

SUPPORT CENTER LOCATIONS

Allen County

Parkview Regional Medical Center

11109 Parkview Plaza Drive
Fort Wayne, IN 46845
Conference Room A, B & C

Allen County

Lutheran TBI, Stroke & Aphasia

7956 West Jefferson Boulevard
Fort Wayne, IN 46804
3rd Monday, 6:30 – 8:00 pm

Boone County

Boone County Support Group

Lebanon Library
104 E. Washington Street
Lebanon, IN 46052

Delaware County

Family Practice Center

221 N. Celia Avenue
Muncie, IN 47303
1st Tuesday, 5:30-8:00 pm



9:40 AM
3/7/2019



Support Group Listing Document

Indiana Brain Injury Support Groups

<https://biaindiana.org/support/>

Bloomington (Monroe County)

IU Dept. of Speech & Hearing,
200 S. Jordan Avenue
Rebecca Eberle, rebeberl@indiana.edu
Laura Karcher, lkarcher@indiana.edu
812.855.6251
1st Monday, 5:30 to 6:30 pm,
followed by a half hour of social
interaction time

Elkhart (Elkhart County)

Elkhart General Hospital, Cafeteria
600 East Boulevard
Dr. Wendell Rohrer
Christine Whitehead: 574.523.3242
3rd Tuesday, 5:30 – 6:30 pm

Evansville (Vanderburgh County)

HealthSouth Rehabilitation Hospital
4100 Covert Ave.
Dawn Westfall- 812.437.6157
2nd Thursday, 6:00 – 7:00 pm

Ft. Wayne (Allen County)

Parkview Regional Medical Center
11109 Parkview Plaza Dr.
Conference Room A, B & C
Kristin Smith- 260.373.9765
1st Monday, 6:30 – 8:30 pm

Ft. Wayne Group (Allen County)

NeuroSpine and Pain Center
Lutheran Hospital
7956 West Jefferson Blvd.
Cindy Shepherd- 260.435.6143
3rd Monday, 6:30-8:00 pm

Kokomo (Howard County)

Howard Regional Hospital
West Campus, Dining Rm.
1008 N. Indiana Avenue
Russ and Sue Ragland- 317.219.6116
3rd Monday, 7:00 – 9:00 pm

Lafayette (Tippecanoe County)

St. Elizabeth Outpatient Rehab.
1260 N. 17th Street
Quarterly meetings:
March 22nd 5-6 pm
June 21st 5-6 pm
September 20th 5-6 pm
December 20th 5-6 pm
Wendy Pullen- 765.423.6885

NW Indiana (Lake County)

Methodist Hospital
Pavilion B Conf Rm CACS
200 E 89th Ave
Merrillville, IN 46410
Cindy Johnson- 219.308.4579
4th Tuesday- 7pm-8pm CST

Northern Indiana/Michigan

2929 Niles Road, St. Joseph, MI
Jayne Daniel- 269.208.2862
Sheryl Haufman- 269.208.1506
3rd Wednesday, 7:00 – 8:30 pm

Bridging the Gap (Marion County)

RHI Neuro Rehab Center
9531 Valparaiso Court
Susie Crane- susan.crane@rhin.com
Pam Nihiser-pamela.nihiser@rhin.com
317.329.2237
4th Monday, 6:30 - 8:00 pm

Indianapolis Southside

(Marion County)

Faith Assembly of God Church,
186 Royal Road (Marion County)
Julia Pratt- 317.244.4463/
317.430.1701
juliapratt1@hotmail.com
2nd Monday, 7:00 pm

Indianapolis – Westside

(Marion County)

Rehabilitation Hospital of Indiana
4141 Shore Drive
Elaine and Paul Howard- 317.299.6433
1st Monday, 6:30 - 8:30 pm

Indianapolis (Marion County)

Community Rehabilitation Hospital
7343 Clearvista Drive
Mary Myers- 317.585.5428
4th Wednesday, 5:30-6:30 pm

"Heads or Tails"- Twenties & Thirties* (Marion County)

Trader's Point Christian Church, B224
6590 S. Indianapolis Road, Whitestown
Susie Fitt- 317.408.2183
Wendy Waldman- 317.410.3532
2nd Tuesday, 6:30 – 8:30 pm

Marion Support Group (Grant County)

Marion General Hospital
30 Wabash Ave., Marion, IN
5th floor conference room
Gary Turner – 260.273.0529
2nd Tuesday, 6:30-8:30 pm

Muncie (Delaware County)

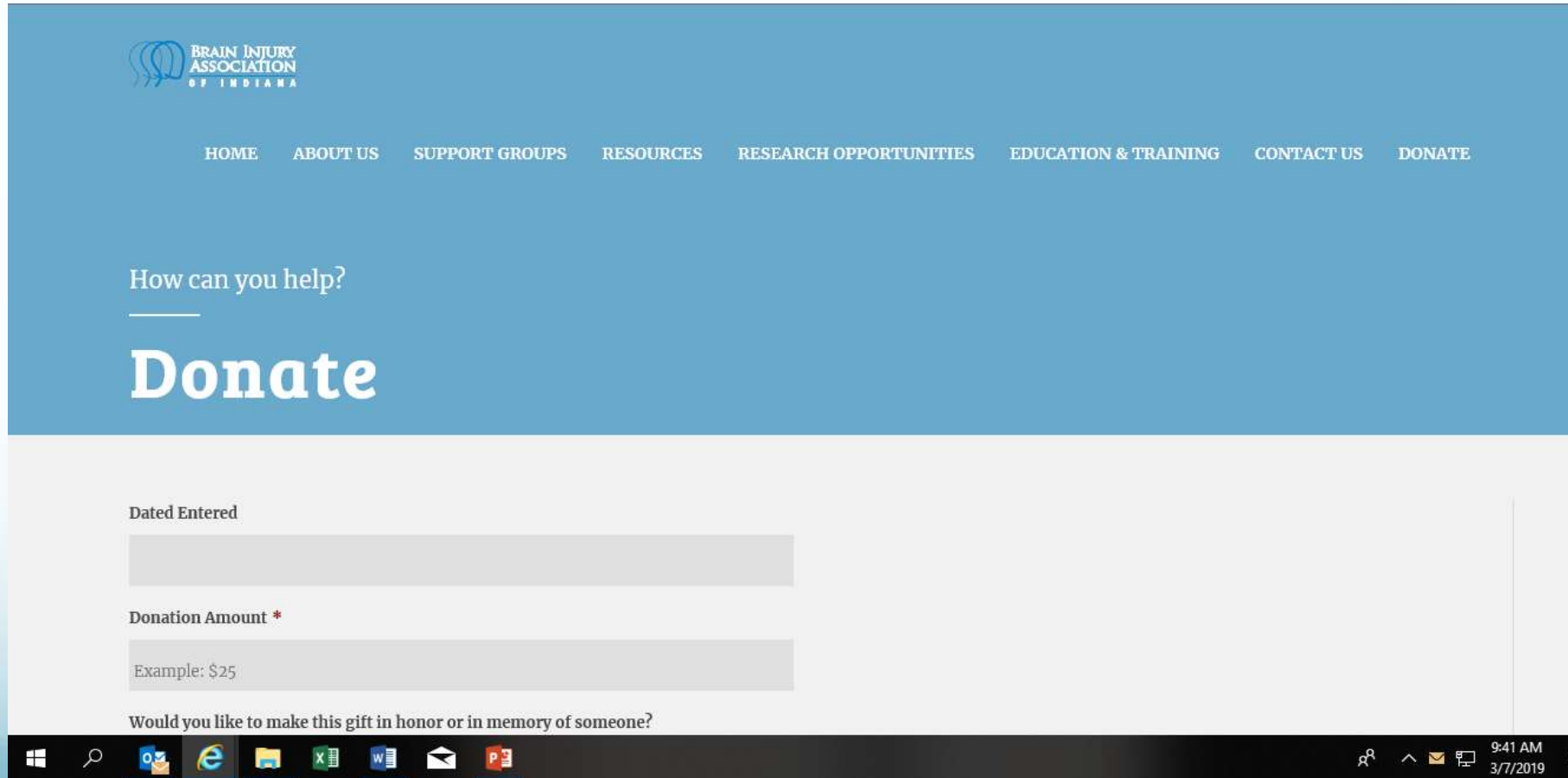
Family Practice Center
221 N. Celia Avenue
Patt Webb- 765.748.6957
1st Tuesday, 5:30-8:00 pm

Mishawaka (St. Joseph County)

St. Joseph Regional Medical Center
5215 Holy Cross Parkway, Mishawaka, IN
46545 Education Center A (in hospital)
Rachel Mosir- 618-719-4214
Penny Torma- 574-286-8767
4th Tuesday, 6:30 to 8:30 pm

BIAI Website:

Donate:



The screenshot shows the donation page of the Brain Injury Association of Indiana. The page has a blue header with the organization's logo and a navigation menu. Below the header, the text "How can you help?" is followed by a large "Donate" button. The main content area contains a form with three fields: "Dated Entered" (empty), "Donation Amount *" (with an example of "\$25"), and "Would you like to make this gift in honor or in memory of someone?" (empty). The Windows taskbar is visible at the bottom, showing the time as 9:41 AM on 3/7/2019.

BRAIN INJURY ASSOCIATION OF INDIANA

HOME ABOUT US SUPPORT GROUPS RESOURCES RESEARCH OPPORTUNITIES EDUCATION & TRAINING CONTACT US DONATE

How can you help?

Donate

Dated Entered

Donation Amount *

Example: \$25

Would you like to make this gift in honor or in memory of someone?

9:41 AM 3/7/2019

Contact Brain Injury Association of Indiana:

- 1.800 Number:
 - 1.800.992.1213
- Local Number:
 - 317.329.2235
- Website Contact:
 - <https://biaindiana.org/contact-us/>
- Email:
 - wendy.waldman@rhin.com



March is Brain Injury Awareness Month

- The Brain Injury Association of America (BIAA) leads the nation in observing Brain Injury Awareness Month by conducting an awareness campaign in March each year.
- The theme for the 2018 to 2020 campaign is Change Your Mind.
- Contact BIAI for information on how to join and support the Brain Injury Association Awareness Campaign and bring your voice to this silent epidemic.

Questions?

Thank you!

