

HIDDEN INJURIES & MISDIAGNOSES IN BATTERING

DONALD CLARK MD MPH

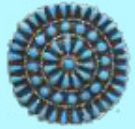
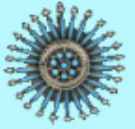


DISCLAIMERS

- FAMILY DOCTOR
 - 25 Years Indian Health Service
 - Also Trained in Epidemiology
 - Working on Intimate Partner Violence (IPV) in healthcare setting 15+ years
 - No special training in TBI

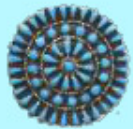
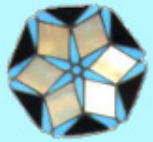
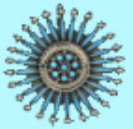
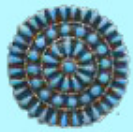
“Prime Directives”


- Safety
- Autonomy
- Individual Respect
- Cultural Competency



Intimate Partner Violence =

- *Pattern* of assaultive and coercive behaviors
- Physical, sexual, and psychological and economic
- That *adults or adolescents* use against their intimate partners or former partners.





Nonfatal IPV Victims: Females > Males*

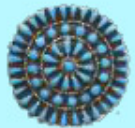
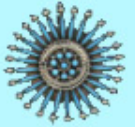
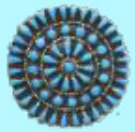
- On average between 2001 and 2005
- 22% of nonfatal violent victimizations against females age 12 or older
- 4% of nonfatal violent victimizations against males age 12 or older.

*DOJ 2007

Homicides by Intimate Partner

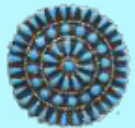
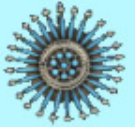
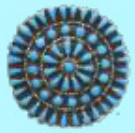
- 30% of homicides of females
- 15% of homicides of males
 - Self-defence?

DOJ 2007



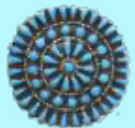
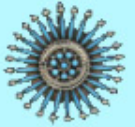
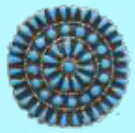
Patient Barriers

- Fear
 - Of Violence
 - Losing custody
 - Homelessness
 - Losing insurance
- Faith
- Finances
- Family
- Father
- Fluency
- Fondness
- Further victim-blaming
- Failure



Patient Barriers

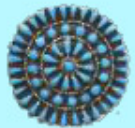
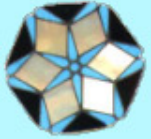
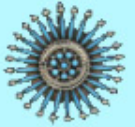
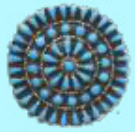
- Forgot?



Traumatic Brain Injury

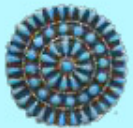
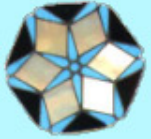
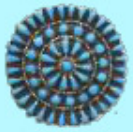
Most research is on

- Veterans
- High School and College athletes
- Disagreement on specific definitions and terms



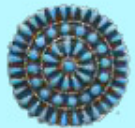
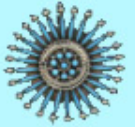
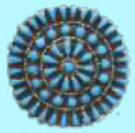
Difficulties

- Few Studies of HEAD INJURY in IPV VICTIMS
- (More research on Brain Injury in Perpetrators!)



Definitions and Abbreviations

- Functional = a problem with the way the brain functions
 - E.g. confusion, depression
- Structural = actual change in brain tissue
 - Can be seen on imaging studies
 - E.g. bleeding into brain



Definitions and Abbreviations

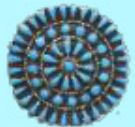
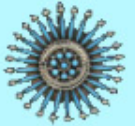
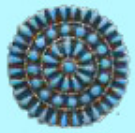
- Amnesia = Forgetting
 - Retrograde (I.e. *past*) Amnesia = forgetting events at the time of the injury and for some period *before* the injury
 - Anterograde (I.e. *forward or future*) = forgetting events at the time of the injury and for a while *afterwards*

Definitions and Abbreviations

- Acute = immediate
- Graded = stepwise or sequential
- Syndrome = grouping or constellation of Sx's
- Altered Mental Status = change in level of consciousness or alertness

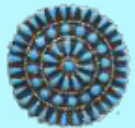
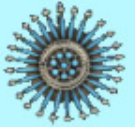
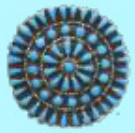
SOME DEFINITIONS

- Concussion
- Traumatic Brain Injury (TBI)



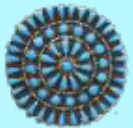
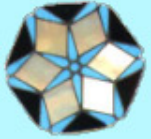
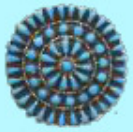
Glasgow Coma Scale = “GCS”

- Best Eye Response. (4)
- Best Verbal Response. (5)
- Best Motor Response. (6)



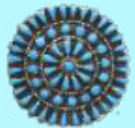
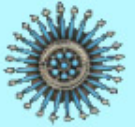
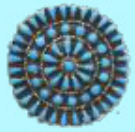
CONCUSSION

- Direct Blow to
 - Head, Face or Neck
 - Body IF “IMPULSIVE” Force Transmitted to Head – Explosion
- Hypoxic – Strangulation or Submersion



CONCUSSION

- Neurologic Impairment
 - Rapid Onset
 - Short Lived
 - Spontaneous Resolution



CONCUSSION

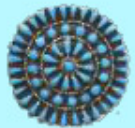
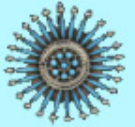
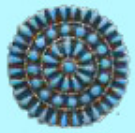
- Acute Sx's = Functional
- Not Structural
- Grossly NI Imaging
- Graded Set of Clinical and Cognitive Symptoms
 - W/ or W/out LOC
 - Resolution = Sequential Course

CONCUSSION

- Acute Sx's – Self-Reported*
 - HA
 - Nausea +/- Vomiting
 - Dizziness +/- Balance Disturbance
 - Visual Changes
 - “Fogginess”
- * What the patient feels rather than what you can see (for the most part)

CONCUSSION

- Acute Sx's – Observed*
 - Altered Consciousness
 - Altered Mental Status
 - LOC
 - Anterograde Amnesia
 - Retrograde Amnesia
- * You can see it



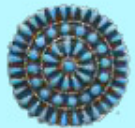
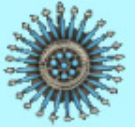
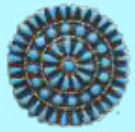
MILD TBI = CONCUSSION

- “Mild” TBI
 - Cause (Discussed)
 - +/- LOC < or = 20 Minutes
 - +/- Retrograde Amnesia
 - Glasgow Coma Scale 13-15
 - No Focal Neurologic Deficits
 - No Seizures
 - NI Imaging*

* Not always necessary

MILD TBI = CONCUSSION

- Most Common Causes
 - Motor Vehicle Crashes
 - Falls
 - Assaults



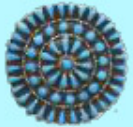
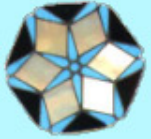
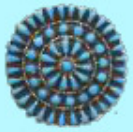
MILD TBI = CONCUSSION

- “Mild” TBI
 - Cause (Discussed)
 - +/- LOC \leq 20 Minutes
 - +/- Retrograde Amnesia
 - Glasgow Coma Scale 13-15
 - No Focal Neurologic Deficits
 - No Seizures
 - NI Imaging*

* Not always necessary

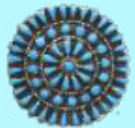
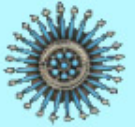
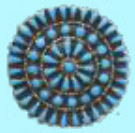
MODERATE TBI

- ANY of the Above WITH
 - LOC > 20 Min
 - Focal Deficits
 - Seizures
 - Progressive Sx's



“SEVERE” TBI

- = Penetrating Head Trauma
 - Skull is broken
- “You Don’t Need to be a Doctor”



UNDERESTIMATES? PROBABLY!

- 20% of all Brain Injuries w/ LOC Never Reported To MD
- Admission for Mild TBI = Rare
- Do IPV Victims Deny or Minimize Injuries?
- TBI difficult to Dx

ESTIMATES

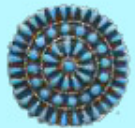
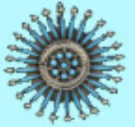
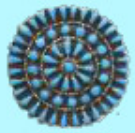
- IPV Injuries Requiring Medical Care:
- Females: 3-21% (Males: 0.4-4%)
- $\sim 1/3$ = Head Injuries (Face, Neck or Head)

TBI Prevalence in IPV

- ER – 30 - 74%
 - 92 % Mild TBI
 - 10% Mod – Severe
- Urban, population-based sample – 10%
LOC


TBI Strangulation in IPV

- ER - 27% Strangulation
- Shelter population – 68%
- Community Sample – 54%



OHIO STUDY – IPV AND TBI

- 30% Assault w/ LOC
 - 10% unsure of LOC
- Some went to ER, some not
- 15% Hospitalized Due to Head Injuries
- 67% w/ residual problems possibly associated w/ TBI
- 31% “Incidences” of Sx’s w/ No LOC



OHIO STUDY – IPV AND TBI

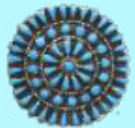
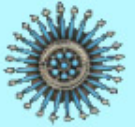
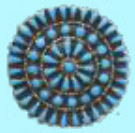
- 67% w/ residual problems possibly associated w/ TBI
 - HA
 - Dizzy
 - Memory Loss
 - Relationship
 - Concentration
 - Work/School Performance
 - Other

OHIO STUDY – IPV AND TBI

- No Difference in Sx's between LOC and No LOC

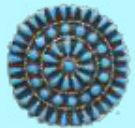
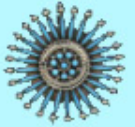
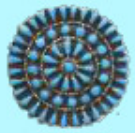
POSTCONCUSSION SYNDROME

- Physical
- Cognitive
- Behavioral/Emotional



POSTCONCUSSION SYNDROME


- Most commonly (don't need all present)
 - Headaches
 - Dizziness
 - Fatigue
 - Irritability
 - Anxiety
 - Insomnia
 - Loss of consciousness and memory
 - Noise sensitivity





RISK FACTORS FOR ONGOING DISABILITY

- Female
- Assault
- “Considerable Pre-injury Stress”



WHY DO WOMEN HAVE POORER OUTCOMES? HYPOTHESES

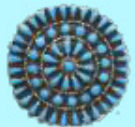
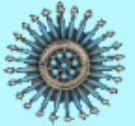
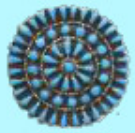
- Rotational* Forces more likely

Rotational = More Injurious

- Different “Brain Organization”
- Better Verbal Skills
- More injury from behind, possibly
- * Injury rotates the head, rather than striking from front-to-back or from the side

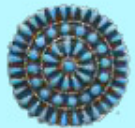
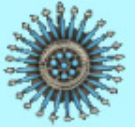
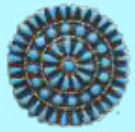
CONCUSSION - Review

- NEUROLOGIC IMPAIRMENT
 - RAPID ONSET
 - SHORT LIVED
 - SPONTANEOUS RESOLUTION



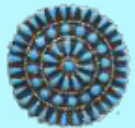
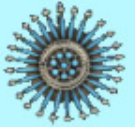
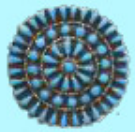
QUESTIONS

- When are Clients Capable of making Major Life Decisions?
- (= Recovery Time?)



RECOVERY FROM MILD TBI

- Postconcussion SXs after Mild TBI discharge from Emergency Room
 - At D/C – ~50%
 - At 3 Mths – 33%
 - At 12 Mths – 15%



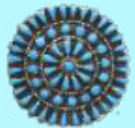
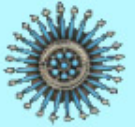
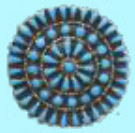


NATURAL COURSE – Mild TBI

- 40-80% Experience Sx's - ESTIMATE
- 85% No Sx at 1 Year - ESTIMATE

RECOVERY FROM MILD TBI

- Sports Injuries
- “Return to Play” Guidelines
- Compare Pre- & Postinjury Neuropsychological Testing

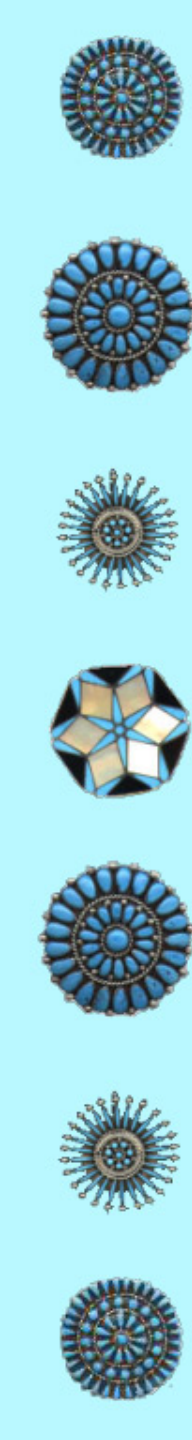


RECOVERY FROM MILD TBI

- 2 Groups
 - High School Athletes
 - No LOC
- < 5 minutes and > 5 minutes of sx's
 - Anterograde Amnesia
 - Retrograde Amnesia
 - Disorientation

RECOVERY FROM MILD TBI

- Self-reported Sx's
 - Less Severe Sx's Peak @ 36 hr
 - < 5 min LOC - N1 @ 4 days
 - > 5 min LOC – N1 @ 7 days



CUMULATIVE EFFECTS OF MILD TBI – RISK OF REINJURY

- HS Athletes
- Includes LOC
- 2 Groups:
 - No Concussions
 - 3+ Concussions



CUMULATIVE EFFECTS OF MILD TBI

- With the Next Concussion
- Concussion Group
 - 6.7X > LOC
 - 4X > Anterograde Amnesia, Confusion, & >5 minutes Confusion
 - 9X > 3-4 Abnormal Signs/Sx's
- Than the No Concussion group



CUMULATIVE EFFECTS OF MILD TBI

- College Football Players:
- 2+ Concussions:
 - Reduced Speed of Functioning
 - Reduced Executive Functioning
 - Lasting Months or Years



BOTTOM LINE – First time Mild TBI

- Memory OK @ 1 week - Probably
- Attention and Information processing
OK @ 1 month
- > 1 TBI ?

Prevalence of Multiple Head Injury

- IPV victims hit in head
 - 25% > 20x in 5 years
 - More times hit = more symptoms
- Strangulation
 - 34% = 3 – 5x
 - 23% > 5x

SUMMARY

- Violent TBI'S Worse At 1 Year Than Other Causes
- Regardless of Gender

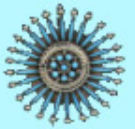
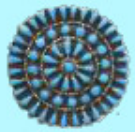
Gerhart, et.al. J Trauma Inj,
Infection and Critical Care, 12/03


CONFUSED?

- Remember the difference between Subjective and Objective
 - Patient feels = Subjective
 - You observe = Objective
- Postconcussion Symptoms are Subjective
 - Last longer than
- Objective tests show faster recovery

CONFUSED?

- “Return to Play” Tests not Great
 - Best if Compared to Pre-Concussion Test
 - Women in IPV are not (usually) HS/ College Athletes*
 - Physically
 - Mentally
 - Psychologically
 - They DON’T want to “Return To Play”
- * Although may share more traits w/ Veterans





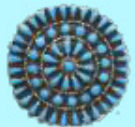
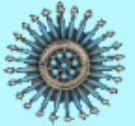
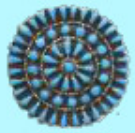
“Return to Play?”

Women in IPV are not (usually) HS/College Athletes

- Protection?
 - Helmet?
 - Mouth guard?
 - Pads?
 - Cup?
 - Referees?

QUESTIONS

- What Can Nonmedical Personnel Do To Gauge Client's Decision-making Capabilities?
 - Autonomy
 - Respect

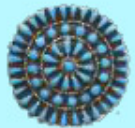
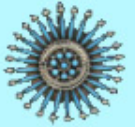
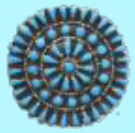




QUESTIONS

How Can Nonmedical Personnel Tell if
Client is

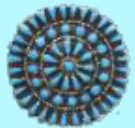
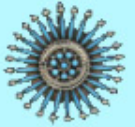
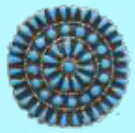
- Brain Injured?
- Vs. Depressed?
- Vs. PTSD?
- Vs. Using?
- Vs. “It’s Normal to Act _____ After
You’ve Been Traumatized”?
- Vs. “All of the Above”?



- Brain Injury Asso. of America pocket guide* “Management of Concussion in Sports”?
 - Frequently Observed Features of Concussion
 - “Sideline Evaluation”
 - Management Recommendations
 - “Return to Play” guidelines
- Fairly Conservative Guidelines
(Available at <https://www.lrssl.com/biaa/bookstore>)

QUESTIONS

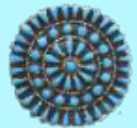
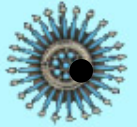
- Why don't victims of IPV follow-up for court?
- For doctor's appointments?



QUESTIONS

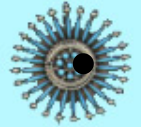
- WHAT CAN YOU TELL ADVOCATES ABOUT REPETITIVE HEAD TRAUMA?
- WHEN ARE SUCH CLIENTS CAPABLE OF MAKING MAJOR LIFE DECISIONS? (I.E. RECOVERY TIME?)

QUESTIONS



WHAT CAN ADVOCATES DO TO
DETERMINE IF CLIENTS ARE
CAPABLE OF SUCH DECISIONS?

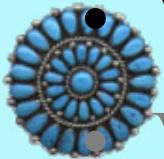
QUESTIONS



• HOW CAN ADVOCATES DETERMINE IF CLIENTS ARE BRAIN INJURED?

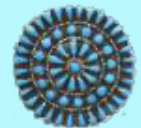


• VS. DEPRESSED?



• VS. PTSD?

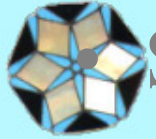
• VS. USING?



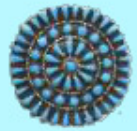
PROBLEMS



• DIFFERENT STUDY RESULTS ARE
CONFUSING



SUBJECTIVE VS. OBJECTIVE
OUTCOMES





Definitions and Abbreviations



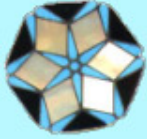


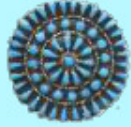
- LOC = Loss of Consciousness
 (“knocked out”)
- Imaging = Taking Pictures of body/
brain
 - Xrays
 - Ultrasounds
 - CT scan (= “computed tomography”)
 - MRI = magnetic resonance image

Definitions and Abbreviations

- SX = “Symptom”
- NL = “Normal”
- “Gross” = visible to the naked eye
 - Or Imaging
 - Does not require microscope



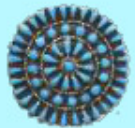
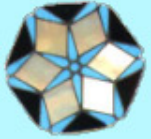
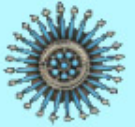
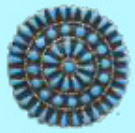
Definitions and Abbreviations

- 
- 
- 
- 
- 
- 
- Neurologic deficit or impairment
 - “Focal” involves one side or a specific part of body or face
 - E.g. paralysis of one arm
 - “Global” involves total brain function
 - E.g. unconsciousness or seizure

Glasgow Coma Scale = “GCS”

- **Best Eye Response. (4)**

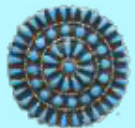
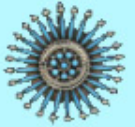
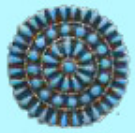
- No eye opening.
- Eye opening to pain.
- Eye opening to verbal command.
- Eyes open spontaneously.



Glasgow Coma Scale = “GCS”

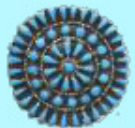
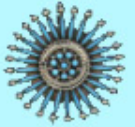
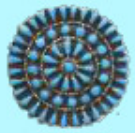
- **Best Verbal Response.
(5)**

- No verbal response
- Incomprehensible sounds.
- Inappropriate words.
- Confused
- Orientated



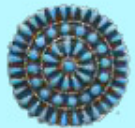
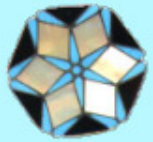
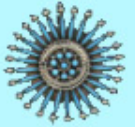
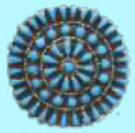
Glasgow Coma Scale = “GCS”

- **Best Motor Response. (6)**
 - No motor response.
 - Extension to pain.
 - Flexion to pain.
 - Withdrawal from pain.
 - Localising pain.
 - Obeys Commands.



Glasgow Coma Scale = “GCS”

- Scored between 3 and 15
- 3 = Worst
- 15 = best
- 13 or higher correlates with a MILD Brain Injury
- 9 to 12 = MODERATE
- <8 = SEVERE brain injury.



OHIO STUDY – IPV AND TBI

- 3 Urban Emergency Rooms (“ER”)
- 169 Women w/ IPV Identified
- 46 Surveyed re: Lifetime assaults
- 17 w/ 2+ Assaults
- = 71 Assaults used for analysis


OHIO STUDY – IPV AND TBI

- PLAY WITH THE NUMBERS =
- MINIMUM 18% OF FEMALE IPV ER PATIENTS W/ RESIDUAL SEQUELAE OF TBI
- MINIMUM 8% W/ LOC
- MINIMUM 4% REQUIRED HOSPITALIZATION



COLORADO OUTCOMES STUDY

- POPULATION-BASED REGISTRY
- DISCHARGES FROM CO HOSPITALS
 - ALIVE
 - NEW TBI
 - 1/1/96 – 6/30/99
 - WEIGHTED SAMPLE



COLORADO OUTCOMES STUDY

- 2,771 TOTAL ALL TBI'S
- 183 (9.7%) DUE TO VIOLENCE OF ANY KIND
- TELEPHONE SURVEY AT 1 YEAR
- 42% NOT COMPLETED DUE TO
 - DEATH, REFUSAL, LOST TO F/U, NON-ENGLISH SPEAKING, IMPRISONED

COLORADO OUTCOMES STUDY

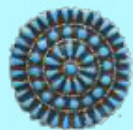
- OF RESPONDENTS:
- 6.2% RELATED TO VIOLENCE
 - DECREASE DUE TO NON-RESPONDERS
- NONRESPONDERS SIGNIFICANTLY MORE LIKELY TO BE MINORITY

QUESTIONS

- WHEN ARE SUCH CLIENTS CAPABLE OF MAKING MAJOR LIFE DECISIONS? (I.E. RECOVERY TIME?)
- Different Studies = Different Results

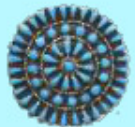
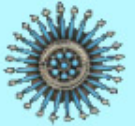
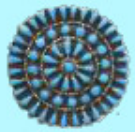
TESTS

- ALL GUIDELINES COMPARED TO ...
- GOLD STANDARD = NEUROPSYCHOLOGICAL TESTING
- ARRAY OF TESTS MAY INCLUDE:
 - MEMORY
 - ATTENTION/CONCENTRATION
 - PERCEPTION
 - EXECUTIVE FUNCTION
 - CONCEPT FORMATION, INTELLIGENCE...



TESTS

- ALL GUIDELINES COMPARED TO ...
- GOLD STANDARD =
NEUROPSYCHOLOGICAL TESTING
 - EXPENSIVE
 - TIME CONSUMING
 - SPECIAL TRAINING TO ADMINISTER
AND INTERPRET





NEUROPSYCH TESTING: PROSPECTIVE STUDIES

- CONCUSSED VS. NOT:
 - SIGNIFICANT IMPAIRMENT IN ATTENTION AND INFO PROCESSING
 - SAME AS CONTROLS AT 1 MON
- FULL NEUROPSYCH EVAL NOT NECESSARY FOR ALL

QUESTIONS

- HOW CAN ADVOCATES DETERMINE IF CLIENTS ARE BRAIN INJURED?

- ANSWER: IT'S HARD

- For Everyone

- Overlap in SXs with other conditions

- TRUST YOUR EXPERIENCE - Some

MORE ABBREVIATIONS

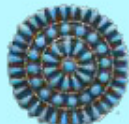
- DIM'D = Diminished
- INCR'D = Increased
- DECR'D = Decreased
- INT = Internal
- EXT = External

DEPRESSION

- DEPRESSED MOOD MOST OF DAY MOST DAYS
- DIM'D INTEREST OR PLEASURE MOST OF DAY MOST DAYS
- WEIGHT UP OR DN $>5\%$ (NO DIET)
- APPETITE UP OR DN MOST DAYS
- INSOMNIA HYPERSOMNIA

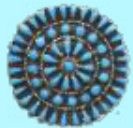
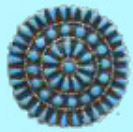


DEPRESSION

- PSYCHOMOTOR AGITATION OR RETARDATION (NOT SUBJECTIVE)
 - FATIGUE OR LOSS OF ENERGY
 - FEELINGS OF WORTHLESSNESS OR INAPPROPRIATE GUILT
 - DIM'D ABILITY THINKING/
CONCENTRATING OR INDECISIVE
 - THOUGHTS OF DEATH/SUICIDE W/OUT
PLAN
- 

ACUTE STRESS D/O

- EXTRAORDINARY EVENT
- RESPONSE LIKE PTSD
- DISSOCIATIVE SX'S AT TIME OR DURING RECALL
- RE-EXPERIENCING TRAUMA



ACUTE STRESS D/O

- AVOIDANCE OF STIMULI
- ANXIETY/AROUSAL
- IMPAIRMENT = SOCIAL/
OCCUPATIONAL
- IMPAIRMENT = SEEKING HELP OR
TELLING FAMILY MEMBERS



ACUTE STRESS D/O

- 
- DISSOCIATIVE SX'S AT TIME OR DURING RECALL



- NUMBING, DETACHMENT, NO EMOTION



- “DAZE”



- DEREALIZATION



- DEPERSONALIZATION



- DISSOCIATIVE AMNESIA (RE TRAUMA)

PTSD



- EXTRAORDINARY EVENT



- RESPONSE = FEAR, HORROR,
HELPLESS



- RECURRENT OR INTRUSIVE RECALL



- RECURRENT DREAMS



- “FLASHBACKS”



- INTENSE PSYCH DISTRESS TO INT OR
EXT CUES



- PHYSIOLOGIC REACTION TO CUES

PTSD

- PERSISTENT AVOIDANCE

- THOUGHTS, FEELINGS, CONVERSE

- ACTIVITIES, PLACES AND PEOPLE

- POOR RECALL OF TRAUMA

- DIM'D INTEREST/PARTICIPATION

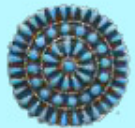
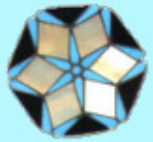
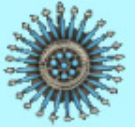
- DETACHMENT/ESTRANGEMENT

- DIM'D RANGE OF AFFECT

- DIM'D FUTURE EXPECTATIONS

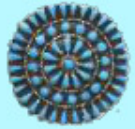
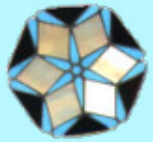
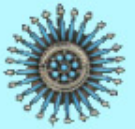
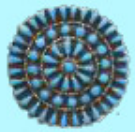
PTSD

- PERSISTENT INCR'D AROUSAL
 - DIM'D FALLING/STAYING ASLEEP
 - IRRITABLE/ANGRY OUTBURSTS
 - DIFFICULTY CONCENTRATING
 - HYPERVIGILANCE
 - EXAGGERATED STARTLE RESPONSE



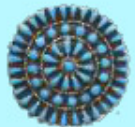
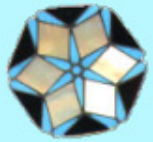
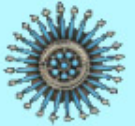
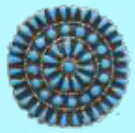
GENERALIZED ANXIETY D/O

- > 6 MTH XS ANXIETY MOST DAYS
- CAN'T CONTROL WORRY
- RESTLESS/"KEYED UP"
- POOR CONCENTRATION –
“Senior Moments”



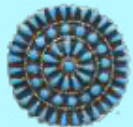
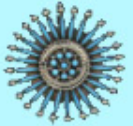
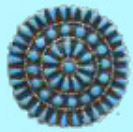
GENERALIZED ANXIETY D/O

- SLEEP DISTURBANCE
- IRRITABILITY
- MUSCLE TENSION
- DEVELOPS OVER SHORT TIME



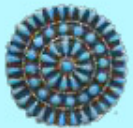
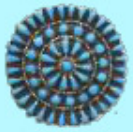
DELIRIUM

- W/ OR W/OUT MEDS/SUB AB
- DISTURBANCE OF CONSCIOUSNESS
 - DIM'D CLARITY OF AWARENESS
 - DECR'D FOCUS
 - DECR'D SUSTAIN OR SHIFT ATTENTION



DELIRIUM

- COGNITION CHANGE
 - DIM'D MEMORY
 - DISORIENTAION
 - LANGUAGE DISTURBANCE



BOTTOM LINE

- **SIX CHECK LIST IN SHELTERS – MAYBE?**

- CAUSE

- LOC

- AMNESIA

- NO FOCAL DEFICITS

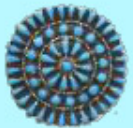
- NO SEIZURES

Suggestions?

- In Advocates' education
- In Advocates' education of Law Enforcement
 - “If you wouldn't let a football player *in a helmet* return to play.....”
- Helpful to shelter staff?

FUTURE RESEARCH

- Studies are being done on Perpetrators
 - Some consistent with past TBI
 - Show DEC'D “Executive Function”
- Why not on IPV victims?





FUTURE RESEARCH

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- More information regarding recovery from:



- Mild TBI



- Multiple TBI



More studies on TBI and IPV needed

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- Would reliable test for Mild TBI be helpful or useful in a IPV shelter?

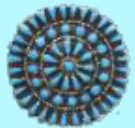
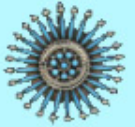
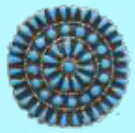
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- How would it be used?
- 

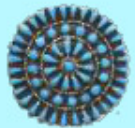
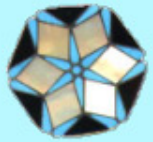
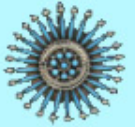
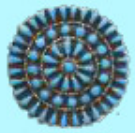
FUTURE RESEARCH

- SERIAL EXAMS AT SHELTERS?
- Brain Injury Asso of America Guidelines?
- ANTIDEPRESSANTS FOR ALL?
- SYMPTOM CHECK LIST AS GUIDE?

FUTURE RESEARCH

- What's the downside of more research?





- HOW CAN THIS TALK BE MORE HELPFUL TO YOU?
- IS THIS INTERESTING OR USEFUL?

HIDDEN INJURIES AND MISDIAGNOSES IN BATTERING

Donald Clark MD MPH
Albuquerque IHS Clinic

