The Psychological Effects of Road Collisions
(with highlights of The Albany MVA (RTA) Project)

Edward J. Hickling, PsyD
Capital Psychological Associates
University at Albany, SUNY
University of South Florida
Introduction

• Goal
  – To provide an overview of the psychological effects of motor vehicle accidents, henceforth called Road Traffic Accidents (RTAs).
  – To do that I’ll begin with some major terms you may or may not be familiar with
  – Then will use the Albany MVA Project, and our work of 17 years to illustrate some points
  – Adding in relevant research findings, many from this side of the Atlantic
What is trauma?

• According to Webster’s, a trauma is:
  a bodily or mental injury usually caused by an 
  external agent. A severe 
  wound caused by a sudden 
  physical or emotional 
  shock causing lasting and 
  substantial damage to a 
  person’s psychological 
  development
Reactions to Trauma

• Common Reactions
  – Emotional shock, grief
  – Mental, worry, conc.
  – Physical, fatigue
  – Interpersonal, withdrawal
  Can last days - years

• Concerning Reactions
  – Intrusive feelings
  – Numbing, emptiness
  – Avoidance attempts
  – Hyperarousal
  – Depression & anxiety
  – Dissociation
PTSD

• 4 Criteria for PTSD (with 17 possible Sx)
  – A- Event
    • (experienced, witnessed or confronted with an event that involved actual or threatened death, serious injury, or threat to physical integrity of self or others)
  – B- Re-experiencing of the Trauma (need 1 or more):
    • Recurrent & distressing recollections of the event
    • Recurrent distressing dreams
    • Acting or feeling “as if” event was recurring
    • Intense distress when exposed to internal or external cues that resemble or symbolize the event
    • Physiological reactivity when exposed to internal or external cues
PTSD (continued, C&D)

- **C-** Persistent Avoidance & numbing/decreased responsiveness
  - Efforts to avoid thoughts, feelings or conversations associated with trauma
  - Efforts to avoid activities, places or people that arouse recollections of the trauma
  - Inability to recall important aspects of the trauma
  - Diminished interest or participation in sig. activities
  - Feeling detached or estranged from others
  - Restricted range of affect (unable to have loving feelings)
  - Sense of foreshortened future

- **D-** Hyper arousal
  - Sleep difficulty
  - Irritability or anger
  - Difficulty concentrating
  - Hyper vigilance
  - Exaggerated startle response

- Sx continue>1 month post trauma
- Impacts social, occupational or other important areas of functioning
- Acute<3month, Chronic >3+
- Or delayed onset
Acute Stress Disorder & Other Common Diagnoses

• If right after trauma (<30 days, ? What do we call it?)
• Adjustment Reaction
• Anxiety NOS
• Specific Phobia
• Or ASD, similar to PTSD, with a slightly greater emphasis on Dissociation

• Important in the timing, if you see early trauma case, Dx and presentation may be very similar
ASD

- **A-** Same exposure to a trauma as PTSD
- **B-** 3 or more of:
  - sense of numbing, detachment or lack of emotional responsiveness
  - reduction in awareness of surroundings
  - Derealization
  - Depersonalization
  - Dissociative amnesia
- **C-** Persistent reexperiencing images, thoughts, dreams, illusions, flashbacks, sense of reliving, or upon exposure to reminders is distressed
- **D-** Avoidance of things that cause recollections
- **E-** increased anxiety or increased arousal (sleep, irritability, poor concentration, startle, restlessness
Epidemiology of Trauma & PTSD

- Kessler et al. and National Comorbidity Survey’s and national Center for PTSD are really the definitive sources.
- **Some facts:**
  - In the US about 8% of the US population will have PTSD sx at some point in their life
  - (8% of 300 million = 24,000,000), 5.2 million adults will have PTSD during any given year (children get this too)
What about RTAs?

• In US RTAs are common, with 1,630,000 non-fatal injuries due to RTAs in 2008.
• So what happens to them emotionally? Especially in terms of PTSD?
Once upon a time

• I had begun career at the Veterans Hospital in Albany…..

• Left after 5 years to start a private practice

• Within a year I’d noticed several people who had appeared to have what I had thought was a PTSD..

• But you can’t have PTSD unless you had an experience out side of normal human experience, ….how many of you have had a RTA?

• (DSM-III, 1980)
So, what does one do?

• Went to my colleagues at SUNY-Albany
• Ed Blanchard, and his group at CSAD
• Gathered some pilot data out of my office
• Looked at a sample, placed in psychophys lab, and guess what? Sure reacted like PTSD.
• So a simple questions, coming from a clinical practice, “Can this be PTSD? And what are the psychological reactions to a RTA?”
• Led to our first NIMH grant, allowing us to begin this investigation in earnest
Albany MVA Project: The Early Years

- DSM-III trauma had to be outside the range of usual experience (most of us have had a MVA)
- Harder to study and not treat, rape, assault, etc.
- Great group to study; never ending population, hard to get worst cases, it was where most problems show up, i.e. Dr.’s offices, but not only a good paradigm and relevant, but it, turns out to be #1 trauma overall in western civilization
Our Initial Study: What is the Psychological Impact of an RTA?

- A five year, assessment study, followed 158 car crash victims, up to two years following their MVA (and 93 controls).

- To be included, needed to have been in a MVA that led to medical attention within 1-4 months.

- While all the results are in our book, highlights were…
After the Crash (2nd edition)
What are the psychological sequelae of MVAs?

• This was the basic question behind the assessment study.

• This large scale, prospective study allowed a great deal of questions to be answered along the way, but the first, and most basic was; how often does PTSD occur in this population, the health care seeking survivors of RTAs?
Assessment Study - Major Findings

• Almost 40% of RTA victims had PTSD
• Corroborated by several other groups who in larger samples, lower the overall estimate to about 25% *(seems to depend on sample)
• Besides PTSD, we found that of those with PTSD about 56% develop affective disorders, and 90% develop driving difficulties

* Anke Ehlers, Richard Bryant, Chris Brewin
Improvement Over Time

• About 48% of those with PTSD will improve by 6 months, and by 12 months 65% will improve.

• Very few improve after this period of time, and improvement does not mean symptom free.

• Some studies show up to 6 years later, even with Tx, up to 40% won’t improve. That’s why in our Tx study we waited 6 months post RTA to control for spontaneous improvement due to time.
Improvement over Time

Figure 6-2
12-Month Follow-Up of Initial PTSD Individuals

Figure 6-3
12- to 18-Month Follow-Up of Initial PTSD Individuals
Who Develops PTSD?

- Previous major depression
- Fear of Dying in the RTA
- Extent of injury
- Dissociative symptoms
- Reexperiencing symptoms
- Strong avoidance
- Prior PTSD
- Gender (female > male)
- Mortality
- Ongoing litigation
Who Gets Better Over Time?

- Degree of physical injury
- Depressed at time of RTA
- Prior psychiatric history
- Vulnerability at time of RTA
- Family support
Related studies

• Responsibility
• Delayed Onset
• Psychophysiological predictors
• We believed in a large data set, with many layers of data that allowed us later to examine questions we had never thought of originally, and to pilot other studies from this set of data, e.g., Gender, responsibility, HR
Delayed Onset

• In movies, PTSD Sx can just come on suddenly, with some new unexpected reminder

• 7 cases (4.4%) of the initial 158 participants in our study who appeared to have delayed onset PTSD

• All had subsyndromal dx (Sx > other subsyndromal)

• All limited social support, 3 new stressors
Can we help these people? Tx Studies

• Once we ran this study, we were faced with the next practical set of questions regarding how to help.

• Very limited literature on RTA and PTSD, we’d just confirmed it was even a problem, so we looked at what was known from other population, and along the way we’d been treating some of these people, so we looked at that data.
The Albany MVA Project Tx Study

- 3 experienced community therapists, numerous staff
- Assessments
  - Telephone screen
  - Long 2-6 hour interview
  - MVA interview, CAPS, SCID, SCID-II, LIFE-Base, psychosocial Hx, summary narrative
  - BDI, STAI, BSI, IES, PCL
  - Psychophysiological Assessment; HR, BP, skin resistance baseline, 3 stressors, Mental arithmetic & 2 idiosyncratic audiotapes of MVA
  - Repeated @post tx, or post wait list, 3, 12 and 24 mos.
What did Tx look like?

1. Intro., educ., relaxation, MVA exposure, written homework
2. MVA descrip., 16 relax, hierarchy intro
3. Read MVA descrip., neg. self talk, avoidance hierarchy, met with sig. other, 8 relax
4. Coping self statements, 5 relax
5. Read MVA, CBT, MVA, descr., relax by recall
6. Read MVA, cued cond. relax., CBT
7. *Psych numb., dep., anger, existential issues, PES, continue above
8. PES, CBT. other
9. Same as 8
10. Final visit, review
Support & Wait List

• The support condition:
  - education about PTSD
  - Review of PTSD Sx for subject
  - Review of the patient’s life history with an emphasis on losses and traumas
  - Ongoing issues (other than RTA)
  - ANYTHING…. BUT CBT

• Wait list condition
Tx Study Major Findings

• CBT Tx study
• 98 people entered into tx: 78 completed tx. Tx consisted of CBT; Supportive Psychotherapy and wait list; 27=CBT, 27=Support, 24=WL, 20
• We found that 76% of those in CBT improved, 47% in Supportive Tx, and 24% of those in wait list only
How much improvement?

• 76% improvement (no longer meets Dx for PTSD); but still have Sx.

• Caution for all that bad sleep, avoidance, limited life is not the same as all better. To not merit a diagnosis of PTSD, does not stop need for some treatment to continue… and don’t be fooled by even the good data (like ours)

• And what about those in support Tx?

• F/U Studies confirm results internationally. (e.g. Ehlers cognitive therapy)
Our One Deception Study

• Malingering Question, sat in court room in Manhattan, being asked how do we know someone isn’t lying…..

• Designed a study or two on the train back to Albany
Malingering Studies

• First study, litigation impact on sx
• From first study we had 132 people we looked at re. litigation issues: 18 had settled 1\textsuperscript{st} yr, 49 initiated but not settled, 65 never initiated; those who did not initiate suit had less Sx (25% had PTSD); those that settled were more injured
• Over 1 yr, all showed a drop in Sx, with pending suits having the highest PTSD sx, and more depressed; settled grp. intermediate, & non suit lowest. 83% still pending back at work
Malingering and Sx Exaggeration

• Lawyer coached assessment (Youngjohn, 1995)
• We did this for 130 subjects, varying the amount of information, whether or not in an actual RTA
• At first glance coached subjects did look like “true PTSD”, but at finer discrimination level they overshot some tests, and under shot others so they actually looked quite different, and we could correctly classify 76% of people on basis of test scores alone.
Best Fakers Money Can Buy Study

• Covert introduction of trained actors, best fakers vs., best clinicians

• 6 professional actors hired and covertly entered into our clinic without anyone knowing.

• Then told that over the past six months, actors were assessed, could they look over all files and records of the people they’d seen (6 assessors) and make their best guesses about malingerers

• Overall hit rate was 91%, 70% if non interviewer looked at data alone (not having done the interviews)
Albany MVA Project: Can we do better?

- Briefer treatments (2 ½ sessions for ASD)
- The internet, our quest for a self help tx
- Self help book
- Dose related treatment
Other Books

- The International Handbook of Road Traffic Accidents & Psychological Trauma: Current Understanding, Treatment, and Law
- Overcoming the Trauma of Your Motor Vehicle Accident: A Cognitive-Behavioral Treatment Program
Ongoing Studies: Tampa/Albany

• ACT and Returning Veterans
  – Online self help
  – Unmatched Count for baseline – anonymous sampling approach for undesirable or disorders with stigma, either social or self
  – Post traumatic growth and positive results
Similarities of PTSD, Depression and mTBI

• A great deal of overlap of Sx
• Use of varied tools to assess:
  – startle, reactivity, and other Sx of disorders including psychophysiological assessment which might show different patterns, as well as psychological and neuropsychological testing, with good structured interview
Conclusion

• Been a wide path we’ve explored with the RTA group.
• Psychological reactions are common.
• PTSD is common.
• Some get better on own, some need help
• Psychosocial areas, critical to see impact on work, social life.
• Tx – help is available, but doesn’t help everyone?
• Resilience - what we can learn from those people has been long overlooked
• Final word, ask….. People will tell you.